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Project: Myers Elementary School

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SUBMITTAL REVIEW

THIS REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. IN NO CASE IS A SUB-CONTRACTOR RELIEVED OF RESPONSIBILITY FOR ADHERENCE TO THE CONTRAT DOCUMENTS AND SATISFACDTORY CONSTRUCTION OF ALL WORK. THE INTENT OF THIS SUBMITTAL REVIEW IS TO COORDINATE ALL TRADES, THE GENERAL CONTRACTOR, AND THE ARCHITECT FOR PRODUCTS AND SERVICES ASSOCIATED WITH THIS PROJECT

SUBMITTAL #: 28 00 00 - 1 (Safety and Security - Ednetics)

REVIEWED BY: Sabina Frank

DATE SUBMITTED Monday, May 3, 2021

SCHEDULE IMPACT: NO

COPIED TO:

INFORMATION SUBMITTED:

ARCHITECTURAL SUBMITTAL REVIEW STAMP

DOCUMENTS

PLANS / PRINTS

PRODUCT INFORMATION

PRODUCT MANUAL

SAMPLES

SHOP DRAWINGS

PROCESSED SUBMITTAL

REVIEWED

PROCEED AS NOTED

REVISE & RESUBMIT

SUBMIT SPECIFIED ITEM

NOT REVIEWED

REJECTED

No Exception Taken
MFIA, Inc
Gary Adovnik
Tuesday, May 04, 2021
Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for: Dimensions, which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

SUBMITTED BY:

EMAIL

SMARTSHEETS

POSTAL SERVICE

FAXED

PROCORE



ednetics®

Salem-Keizer SD Arthur V. Myers Elementary Security
Northside Electric

Product Submittals:

- 28 13 00 Access Control – pg. 4
- 28 23 00 Intrusion Detection – pg. 42
- 28 23 10 IP Video Surveillance – pg. 77

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28 13 00 – Access Control

<i>Manufacturer</i>	<i>Part #</i>	<i>Item Description</i>	<i>Page #</i>
Anixter	AL-1802C-2-2N-01-BX	Nonshielded Plenum Cable	5
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Avigilon	AC-MER-CONT-LP2500	Master Intelligent Controller	9
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HID	AC-HID-READER-SIGNO-40KNKS-00-000000	Card Reader	31
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Leviton	6D460-5G	Patch Cable	40

28 23 00 – Intrusion Detection

<i>Manufacturer</i>	<i>Part #</i>	<i>Item Description</i>	<i>Page #</i>
Anixter	AL-1804C-2-2N-01-BX	Nonshielded Plenum Cable	5
Anixter	AL-1804C-2-2S-01-BX	Shielded Plenum Cable	7
Ultra Tech	1270	Battery	17
George Risk Industries	199-12WG-G	Steel Door Switch	25
Leviton	6D460-5G	Patch Cable	40
Altronix	Trove2M2ED	Enclosure	43
Bosch	B9512G	Control Panel	47
Bosch	TR1850	Transformer	57
Bosch	B501-10	Molex Cables	58
Bosch	D122	Battery Harness	60
Bosch	B308	Octo-Output Module	61
Bosch	B208	Octo-Input Module	64
Bosch	B600	Zonex Module	67
Bosch	B942	Touch Screen Keypad	70
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28 23 10 – IP Video Surveillance

<i>Manufacturer</i>	<i>Part #</i>	<i>Item Description</i>	<i>Page #</i>
Leviton	62460-3G	Patch Cable	38
Leviton	6D460-5G	Patch Cable	40
Arecont	AV5456PMIR-S	Outdoor Dome Camera	78
Arecont	AV20476RS	Omni Directional Dome Camera	82
Arecont	AV10856DN-28	MicroDome Duo Camera	86
Arecont	SO3-CAP-W	Mounting Cap	90
Arecont	MD-CAP-W	Mounting Cap	90
Arecont	AV-WMJB-W	Wall Mount Bracket w/ Standard Junction Box	90
Arecont	AV-CRMA-W	Corner Mount Adapter	90
Arecont	AV-PMJB-W	Pendant Mount Bracket w/ Standard Junction Box	90



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Access Control

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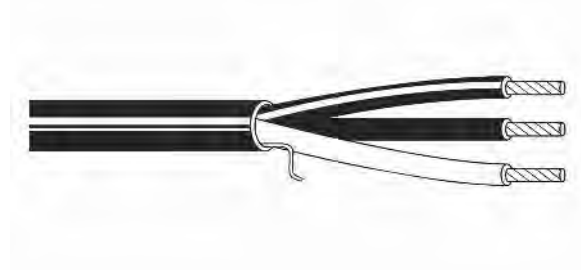
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Security/Alarm/Access Control/Sound Low-voltage Cable Nonshielded Plenum



Product Description

FRPVC

Bare copper conductor

UL Listed Type CMP, CL3P

Applications

For use in security systems, intercom systems, sound/audio systems, access control, power-limited controls.

Specifications

- CONDUCTOR: Bare copper, stranded or solid
- INSULATION: Flame-retardant polyvinyl chloride (FRPVC)
- OVERALL JACKET: Natural (white) flame-retardant polyvinyl chloride (FRPVC)
- STANDARDS: NEC: CMP (22-16 AWG), CL3P (14-12 AWG); NEC Article(s) 800, 725
- RATINGS: 75°C, 300 V

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Standard color is white, other colors available. Most items available on spools or boxes except on larger O.D. products. Diameters and weights may vary among manufacturers. Paired conductors also available.

Part No.	Conductor Size AWG	No. of Conductors	Rating	Insulation	Insulation Thickness (in.)	Overall Jacket Thickness (in.)	Nom. O.D. (in.)	Approx. Wt. lb./1,000 ft.
AL-2202C-2-2N-01	22	2	CMP	FRPVC	0.007	0.015	0.110	11
AL-2202C-1-2N-01	22 (SOL)	2	CMP	FRPVC	0.007	0.015	0.103	11
AL-2203C-2-2N-01	22	3	CMP	FRPVC	0.007	0.015	0.117	14
AL-2204C-2-2N-01	22	4	CMP	FRPVC	0.007	0.015	0.127	17
AL-2204C-1-2N-01	22 (SOL)	4	CMP	FRPVC	0.007	0.015	0.119	17
AL-2206C-2-2N-01	22	6	CMP	FRPVC	0.007	0.015	0.168	22
AL-2208C-2-2N-01	22	8	CMP	FRPVC	0.007	0.015	0.183	30
AL-2210C-2-2N-01	22	10	CMP	FRPVC	0.007	0.015	0.110	42
AL-2212C-2-2N-01	22	12	CMP	FRPVC	0.007	0.015	0.110	44
AL-2002C-2-2N-01	20	2	CMP	FRPVC	0.008	0.015	0.124	13
AL-2003C-2-2N-01	20	3	CMP	FRPVC	0.008	0.015	0.127	17
AL-2004C-2-2N-01	20	4	CL3P	FRPVC	0.008	0.015	0.110	23
AL-1802C-2-2N-01	18	2	CMP	FRPVC	0.008	0.015	0.145	20
AL-1803C-2-2N-01	18	3	CMP	FRPVC	0.008	0.015	0.155	25
AL-1804C-2-2N-01	18	4	CMP	FRPVC	0.008	0.015	0.175	34
AL-1806C-2-2N-01	18	6	CMP	FRPVC	0.008	0.015	0.222	53
AL-1808C-2-2N-01	18	8	CMP	FRPVC	0.008	0.015	0.242	64
AL-1602C-2-2N-01	16	2	CMP	FRPVC	0.009	0.015	0.172	27
AL-1604C-2-2N-01	16	4	CMP	FRPVC	0.009	0.015	0.208	47
AL-1402C-2-2N-01	14	2	CL3P	FRPVC	0.010	0.017	0.222	40
AL-1404C-2-2N-01	14	4	CL3P	FRPVC	0.010	0.017	0.261	67
AL-1202C-2-2N-01	12	2	CL3P	FRPVC	0.011	0.017	0.256	61

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Security/Alarm/Access Control/Sound Low-voltage Cable Shielded Plenum

Product Description

- PVC
- Bare Copper Conductor
- UL Listed Type CMP, CL3P

Applications

- For use in security systems, intercom systems, sound/audio systems, access control, power-limited controls.



Specification

- CONDUCTOR: Bare copper
- INSULATION: Polyvinyl Chloride (PVC)
- JACKET: Polyvinyl Chloride (PVC), White
- STANDARDS: NEC: CMP (22-16 AWG), CL3P (14-12 AWG)
- TEMPERATURE: 75°C

Standard color is white, other colors available. Most items available on spools or boxes except on larger O.D. products. Diameters and weights may vary among manufacturers. Paired conductors also available

<u>Part No.</u>	<u>Conductor Size AWG</u>	<u>No. of Conductors</u>	<u>Rating</u>	<u>Insulation</u>	<u>Insulation Thickness (in.)</u>	<u>Overall Jacket Thickness (in.)</u>	<u>Nom. O.D. (in.)</u>	<u>Approx. Wt. lb./1,000 ft.</u>
AL-2202C-2-2S-01	22	2	CMP	PVC	0.007	0.015	0.112	12
AL-2202C-1-2S-01	22 (SOL)	2	CMP	PVC	0.007	0.015	0.121	14
AL-2203C-2-2S-01	22	3	CMP	PVC	0.007	0.015	0.118	14
AL-2204C-2-2S-01	22	4	CMP	PVC	0.007	0.015	0.129	19
AL-2204C-1-2S-01	22 (SOL)	4	CMP	PVC	0.007	0.015	0.119	19
AL-2206C-2-2S-01	22	6	CMP	PVC	0.007	0.015	0.170	27
AL-2208C-2-2S-01	22	8	CMP	PVC	0.007	0.015	0.183	32
AL-2210C-2-2S-01	22	10	CMP	PVC	0.007	0.018	0.189	42
AL-2212C-2-2S-01	22	12	CMP	PVC	0.007	0.015	0.110	44
AL-2002C-2-2S-01	20	2	CMP	PVC	0.008	0.015	0.129	17

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<u>Part No.</u>	<u>Conductor Size AWG</u>	<u>No. of Conductors</u>	<u>Rating</u>	<u>Insulation</u>	<u>Insulation Thickness (in.)</u>	<u>Overall Jacket Thickness (in.)</u>	<u>Nom. O.D. (in.)</u>	<u>Approx. Wt. lb./1,000 ft.</u>
AL-2003C-2-2S-01	20	3	CMP	PVC	0.008	0.015	0.150	20
AL-2004C-2-2S-01	20	4	CMP	PVC	0.008	0.015	0.110	23
AL-1802C-2-2S-01	18	2	CMP	PVC	0.008	0.015	0.150	25
AL-1803C-2-2S-01	18	3	CMP	PVC	0.008	0.015	0.160	29
AL-1804C-2-2S-01	18	4	CMP	PVC	0.008	0.015	0.177	37
AL-1806C-2-2S-01	18	6	CMP	PVC	0.008	0.015	0.224	55
AL-1808C-2-2S-01	18	8	CMP	PVC	0.008	0.015	0.259	66
AL-1602C-2-2S-01	16	2	CMP	PVC	0.009	0.015	0.174	30
AL-1604C-2-2S-01	16	4	CMP	PVC	0.009	0.015	0.212	58
AL-1402C-2-2S-01	14	2	CL3P	PVC	0.010	0.017	0.229	50
AL-1404C-2-2S-01	14	4	CL3P	PVC	0.010	0.017	0.261	67
AL-1202C-2-2S-01	12	2	CL3P	PVC	0.011	0.017	0.274	69

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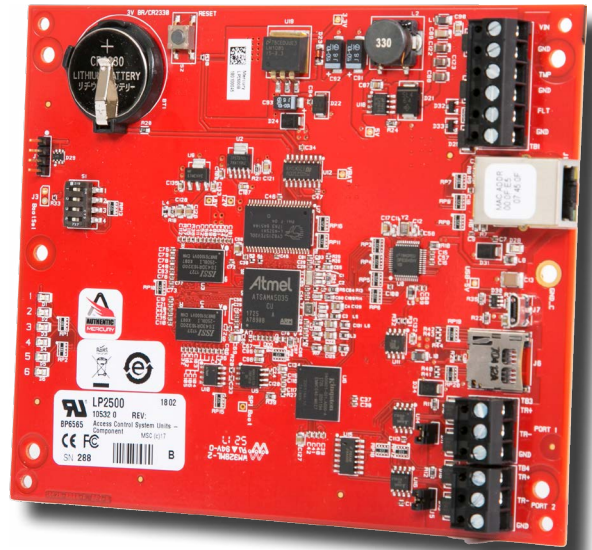
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LP Series - **AC-MER-CONT-LP2500** Master Intelligent Controller

The Avigilon Access Control Manager (ACM) system supports open field hardware from Mercury Security allowing organizations to leverage investments in non-proprietary field hardware, with retrofit programs available for industry standard multi-device interface panels, power and communication controller boards, and intelligent controllers. The new Authentic Mercury LP Series Intelligent Controllers are Mercury Security's enhanced platform that offers an improved processor and increased memory, plus feature an embedded crypto memory chip that provides a secured layer of encryption to onboard sensitive data.

The AC-MER-CONT-LP2500 is a powerful intelligent controller with native network support and is scalable to 64 doors/openings. Capable of elaborate processes and procedures without host intervention, the intelligent controller, once programmed, can function independently of the host.



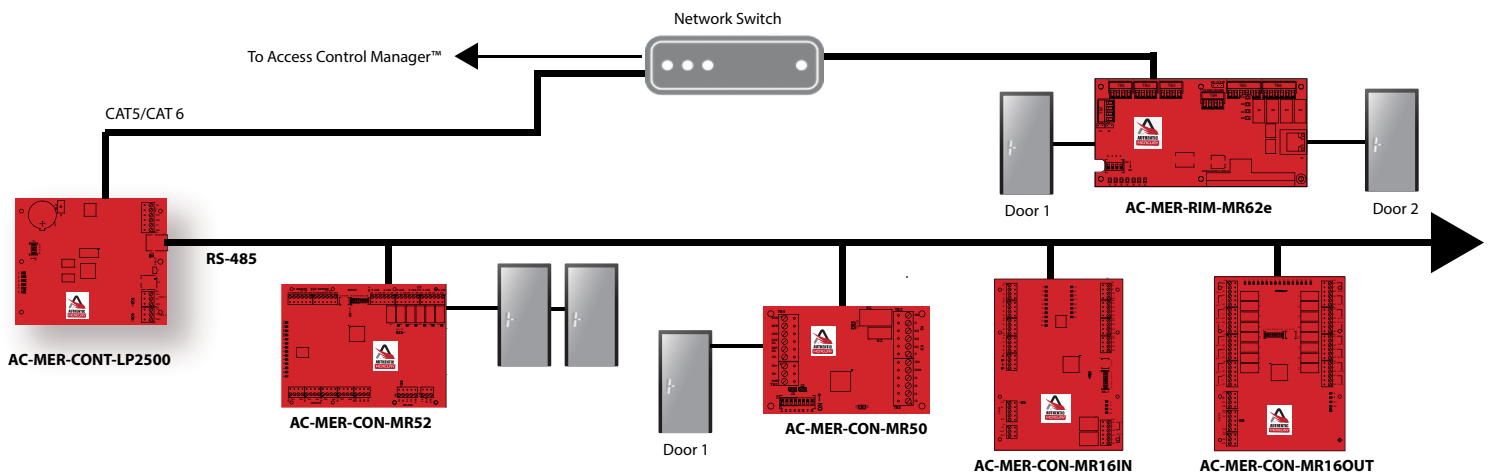
KEY FEATURES

- Enhanced Security: Embedded crypto memory chip and data at rest encryption provides secured layer of protection of sensitive data
- Host communications protected by TLS 1.2/1.1
- Controller/IO Expansion connection protected by AES (Series 3 SIO)
- Port based network access control using 802.1X
- FIPS 140-2 user of OpenSSL
- Encrypted database with configurable sizing



Specifications

TECHNICAL SPECIFICATIONS	Access Control	380,136 cardholder capacity 50,000 transaction buffer Supports up to 2 RS-485 IO protocols 16 access levels per cardholder Cardholder - 19 Digit (64 Bit) User ID with 8 digit PIN MAX Activation/Deactivation	If/Then macro capabilities Anti-passback support Nested, area, hard, soft and timed forgiveness Adjustable cardholder capacity Supports up to 512 inputs or 512 outputs
	Door Control	Natively does not support any readers or openings Use in conjunction with IO expansion modules to support up to 64 readers and openings	
	Primary Power	12 to 24 Vdc ± 10%, 250 mA maximum (USB port current not included)	
	Micro USB Port	5 Vdc, 500 mA maximum (add 270 mA to primary power current)	
	Battery	Memory/ Clock Backup: 3 Volt Lithium, type BR2330 or CR2330	
	microSD Card	Format: microSD or microSDHC; 2GB to 8GB	
	Host Comm.	Ethernet: 10-BaseT/100Base-TX and Micro USB port (2.0) with optional adapter: pluggable model USB2-OTGE100	
	Serial I/O Device	Two each: 2-wire RS-485, 2,400 to 115,200 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit	
	Inputs	Two unsupervised dedicated for cabinet tamper and UPS fault monitoring	
CABLE REQUIREMENTS	Power and Relays	1 twisted pair, 18 to 16 AWG	
	Ethernet	CAT-5, minimum	
	Reader RS-485	1 twisted pair, shielded, 120 ohm impedance, 24 AWG, 4,000 ft. (1,219 m) maximum cable length	
ENVIRONMENTAL	Temperature	-55 to 85 °C storage, 0 to 70 °C, operating	
	Humidity	5 to 95% RHNC	
MECHANICAL	Dimensions	5 in. (127 mm) W x 6 in. (152.4 mm) L x 1 in. (25 mm) H	
	Weight	4.1 oz. (115 gm) nominal, board only	
COMPLIANCE	Product Compliance	UL294 Recognized, FCC Part 15 Class A, CE Compliant, RoHS, NIST Certified Encryption	



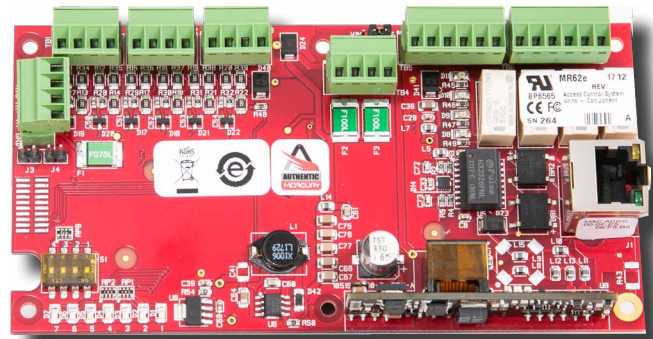
ORDERING INFORMATION	AC-MER-CONT-LP2500	LP Series - AC-MER-CONT-LP2500 - Master Intelligent Controller

Series 3 - **AC-MER-RIM-MR62E** IP-enabled Serial I/O Interface Module

The Avigilon Access Control Manager (ACM) system supports open field hardware from Mercury Security allowing organizations to leverage investments in non-proprietary field hardware, with retrofit programs available for industry standard multi-device interface panels, power and communication controller boards, and intelligent controllers. The new Authentic Mercury MR Series 3 Serial Input/Output modules enable system expansion of Authentic Mercury intelligent controllers as part of Mercury's distributed architecture. The enhanced modules offer an improved processor and increased memory, plus feature an embedded crypto memory chip that provides a secured layer of encryption to onboard sensitive data.

The AC-MER-RIM-MR62E Series 3 is an IP-enabled interface module with on-board flexibility to connect a wide range of security devices. The AC-MER-RIM-MR62E is easy to install and provides the required I/O for interfacing four card readers using OSDP protocol, six general-purpose input monitor points and four control relays to any Authentic Mercury series intelligent controller.

The AC-MER-RIM-MR62E's provides increased power output using PoE+ and provides one reader port supporting OSDP Secure Channel readers, including non-keypad, keypad and biometric readers.



KEY FEATURES

OSDP Protocol: Supports OSDP and Secure Channel communications
Enhanced Security: Embedded crypto memory chip provides secured layer of encryption to protect sensitive data
Edge-capable input/output module supporting PoE+ power
Provides up to 1.5 A of power at door for reader, lock and more
IPv4/6
Intelligent controller to AC-MER-RIM-MR62E communications protected by TLS 1.2/1.1 or AES-256/128
Generate and load custom peer certificates for TLS
FIPS 140-2 user of OpenSSL
Port based network access control using 802.1X
Zerconf Device Discovery (mDNS)
Supports OSDP Readers Only, multiple card formats, paired and alternate readers, elevator, turnstile and biometric devices
Anti-passback support (area, reader and time based)

Specifications

TECHNICAL SPECIFICATIONS	
Door Control	Natively supports for up to 4 OSDP. Does not support Wiegand readers. AC-MER-RIM-MR62E, when linked to an Authentic Mercury Intelligent Controller, controls up to 2 openings
Card Formats	Eight active card formats per intelligent controller. Entire card number reported on invalid read 19 digit (64-bit) User ID and 15 digit PIN numbers maximum PIV, CAC, TWIC card compatible
Power Input	PoE (12.95 W), compliant to IEEE 802.3af or PoE+ (25 W), compliant to IEEE 802.3at or 12 Vdc \pm 10 %, 1.7 A maximum
Power Output	PoE: Locks and Reader, combined: 12 Vdc @ .66 A MAX, PoE+ or 12 Vdc: Lock 12 Vdc @ 1 A MAX, Readers 12 Vdc @ .5 A MAX
Output	Four relays, Form-C contacts rated at 2 A @ 30 Vdc
Inputs	Six unsupervised/supervised, End of Line resistors, 1k/1k ohm, 1%, ¼ watt standard

READER INTERFACE	
Power	12 Vdc @ .5 A MAX
Communication	2-Wire RS-485, OSDP protocol, four devices maximum

CABLE REQUIREMENTS	
Ethernet	CAT-5, minimum
External Input Power	1 twisted pair, 18 AWG (if required)
Alarm Inputs	1 twisted pair per input, 30 ohm maximum
Relay Outputs	As required for the load
Reader Data RS-485 Power	2 twisted pair with shield, 24 AWG, 120 ohm impedance, 4000 foot (1220 m) MAX or RS-485: 1 twisted pair with shield, 24 AWG, 120 ohm impedance, 4000 foot (1220 m) MAX Power: 1 pair 18 AWG

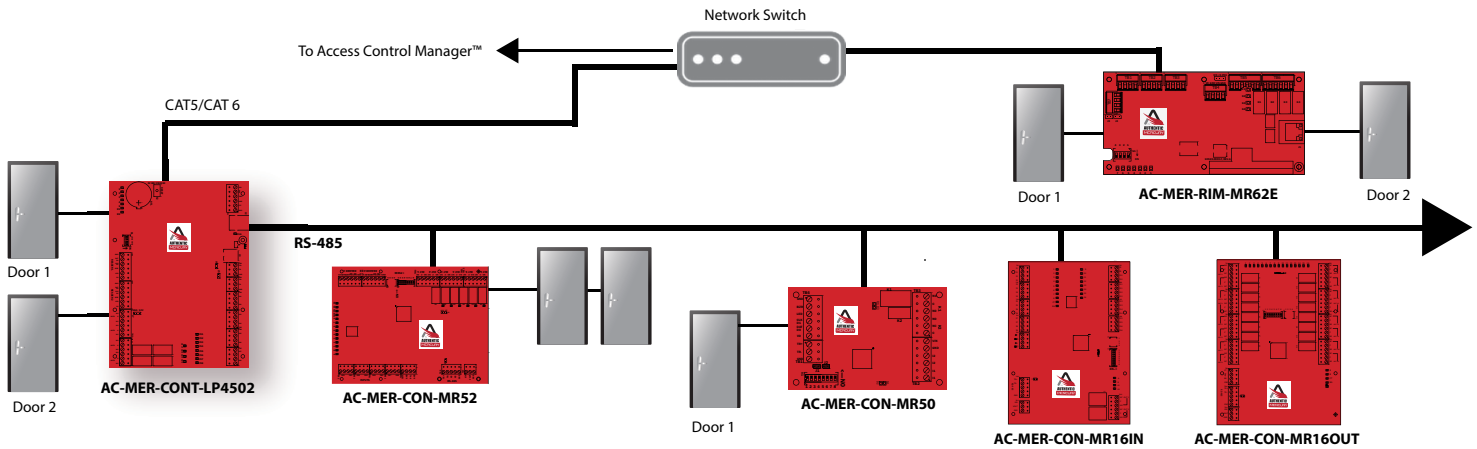
* Type of cable(s) and gauge determined by length and voltage/ current requirements. Local power source may be required

ENVIRONMENTAL	
Temperature	-55 to 85 °C storage, 0 to 70 °C, operating
Humidity	5 to 95% RHNC

MECHANICAL	
Dimensions	5.5 in. (140 mm) W x 2.75 in. (70 mm) L x 0.96 in. (24 mm) H without bracket 5.5 in. (140 mm) W x 3.63 in. (92 mm) L x 1.33 in. (34 mm) H with bracket
Weight	4 oz. (112 g) without bracket 5 oz. (142 g) with bracket

COMPLIANCE	
Product Compliance	UL294 Recognized*, FCC Part 15 Class A, CE Compliant, RoHS, NIST Certified Encryption

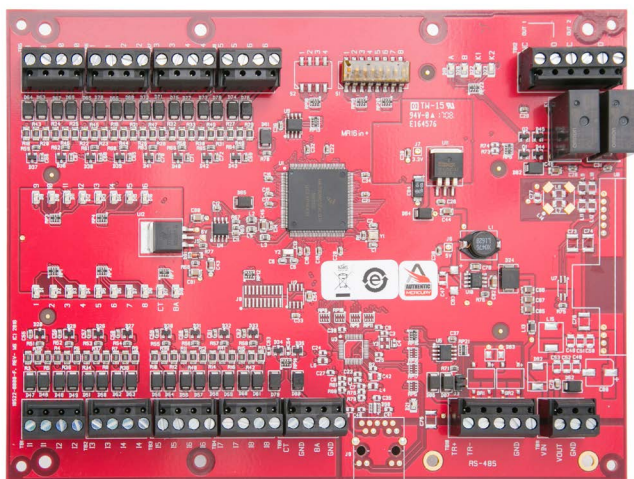
* For UL, the Power Sourcing Equipment (PSE) such as a PoE or PoE+ enabled network switch and/or PoE or PoE+ power injectors must be UL Listed under UL294B.



ORDERING INFORMATION	
AC-MER-RIM-MR62E	Series 3 - AC-MER-RIM-MR62E - IP-enabled Serial I/O Interface Module

Series 3 - Serial I/O 16-input Interface panel

The Avigilon™ Access Control Manager (ACM)™ system supports open field hardware from Mercury Security allowing organizations to leverage investments in non-proprietary field hardware, with retrofit programs available for industry standard multi-device interface panels, power and communication controller boards, and intelligent controllers.



The Mercury Security AC-MER-CONT-MR16in Series 3 from Avigilon is an enhanced, high performance, reliable interface panel for monitoring high concentrations of inputs with the

Access Control Manager system. It offers an improved processor and increased memory with an embedded crypto memory chip for encryption support – enabling organizations to stay ahead of internal and external threats to achieve data security.

Each AC-MER-CONT-MR16in supports 16 general-purpose dry-contact inputs, configurable to be individually set for normally open, normally closed, supervised and non-supervised circuits. The **AC-MER-CON-MR16in** provides access control and security monitoring through the AC-MER-CONT-1DR, AC-MER-CONT-2DR or the AC-MER-CONT-64DR intelligent controllers. The result is the flexibility, versatility and reliability required for demanding access control solutions.

The Access Control Manager system and Mercury Security Series 3 open field hardware provides the ultimate platform to complete the Avigilon physical access control security solution.

Open Architecture: High performance, reliable platform enables use of hardware with the Access Control Manager system

Easy Expansion: Adds functionality and flexibility to existing access control systems

Enhanced Security: Embedded crypto memory chip provides a secure layer of encryption to protect sensitive data

Versatile Interoperability: Same reliable interface and identical footprint as Series 2 Mercury IO modules, enabling seamless upgrades for existing deployments

KEY FEATURES

- Compact footprint and RS-485 connectivity
- 12 or 24V DC input power support
- Supports being clustered or distributed to best suit the installation environment
- Two programmable Form C relay outputs are configurable for fail-safe or fail secure operation, supporting “On”, “Off”, and “Pulse”
- Inputs and the output relays support assignment to door related functions or to general purpose I/O
- Inputs support normally open, normally closed, supervised and non-supervised circuits
- Output relays are configurable for fail-safe or fail secure operation
- Capable of controlling outboard devices, by the condition of selected system devices locally without ACM intervention



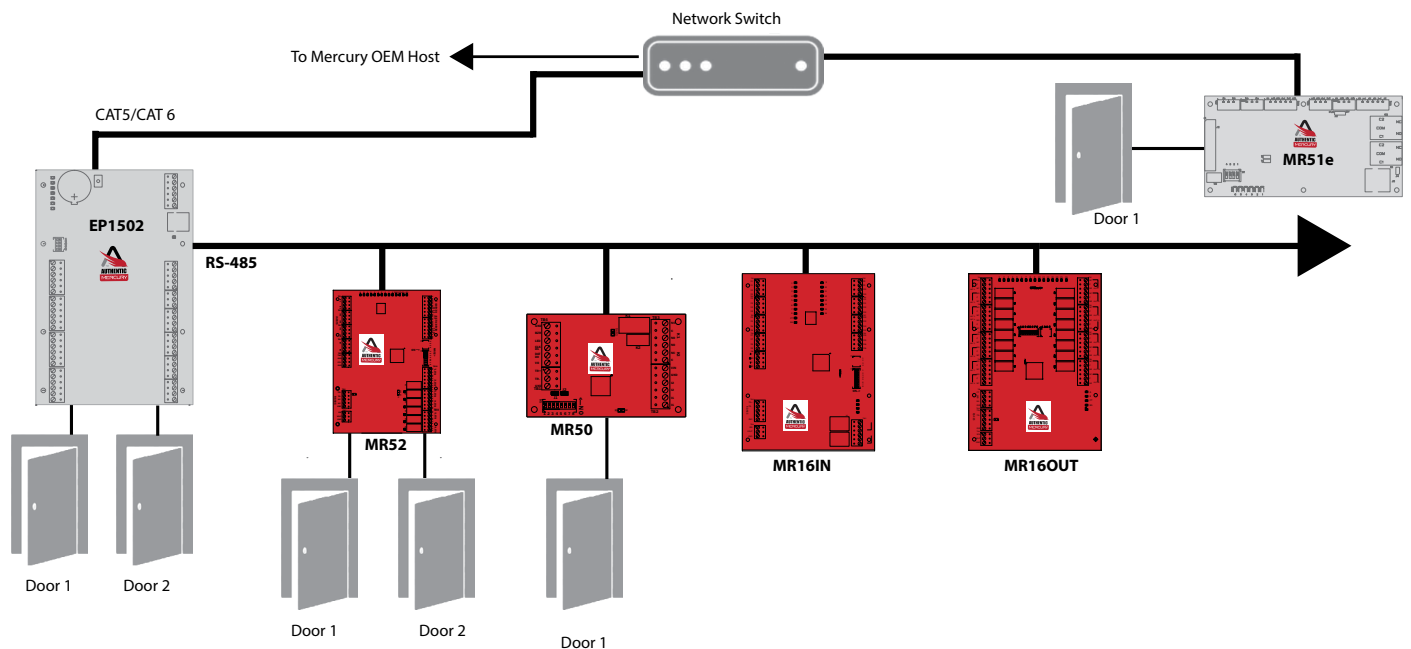
APPLICATION NOTES

The Mercury AC-MER-CONT-MR16IN is an essential component that supports Mercury’s flexible, building-block approach to access control system design. The AC-MER-CONT-MR16IN provides the capacity to link, control and respond to an array of sensors. With its RS-485 connectivity, the AC-MER-CONT-MR16IN can be clustered or distributed to best suit each installation environment.

Specifications

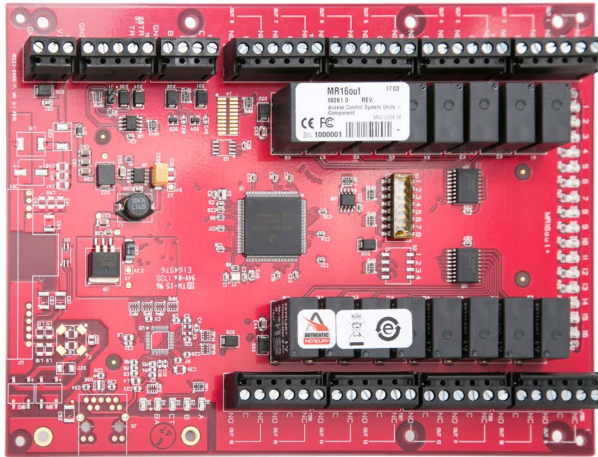
TECHNICAL SPECIFICATIONS	Primary Power	12-24 Vdc +/- 10%, 350mA maximum
	Host Communication	RS-485, 2-wire, 4,000' (twisted pair with shield, Belden 9841)
	Inputs	16 General Purpose: Programmable circuit type 2 Dedicated: Tamper and Power Monitor
	Output Relays	Two Form-C Relays: Normally open contact (NO): 5A @ 30 Vdc resistive Normally closed contact (NC): 3A @ 30 Vdc resistive
	Dimensions	6.0' W x 8.0' L x 1.0' H, (152mm W x 203mm L x 25mm H)
	Temperature	0-70 °C operational, -55-85 °C storage
	Humidity	5 to 95% RHNC
	Standards	UL 294 recognized, CE compliant, RoHS, FCC Part 15 Subpart B

ORDERING INFORMATION	AC-MER-CONT-MR16IN	16 Zone Input Monitor Module (with 2 relays) (Mercury MR16IN-S3)
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Series 3 - Serial I/O 16-output Interface panel

The Avigilon[™] Access Control Manager (ACM)[™] system supports open field hardware from Mercury Security allowing organizations to leverage investments in non-proprietary field hardware, with retrofit programs available for industry standard multi-device interface panels, power and communication controller boards, and intelligent controllers.



Open Architecture: High performance, reliable platform enables use of hardware with the Access Control Manager system

Easy Expansion: Adds functionality and flexibility to existing access control systems

Enhanced Security: Embedded crypto memory chip provides a secure layer of encryption to protect sensitive data

Versatile Interoperability: Same reliable interface and identical footprint as Series 2 Mercury IO modules enabling seamless upgrades for existing deployments



The Mercury Security AC-MER-CONT-MR16OUT Series 3 from Avigilon is an enhanced, high performance, reliable interface panel that offers the ability to control high concentrations of

outputs with the Access Control Manager system. It offers an improved processor and increased memory with an embedded crypto memory chip for encryption support – enabling organizations to stay ahead of internal and external threats to achieve data security.

Each **AC-MER-CONT-MR16OUT** is capable of supporting 16 general-purpose outputs as Form C relay contacts. Each output is configurable for fail-safe or fail secure operation, supporting “On”, “Off”, and “Pulse” commands through the AC-MER-CONT-1DR, AC-MER-CONT-2DR or the AC-MER-CONT-64DR intelligent controllers. The result is the flexibility, versatility and reliability required for demanding access control solutions.

The Access Control Manager system and Mercury Security Series 3 open field hardware provides the ultimate platform to complete the Avigilon physical access control security solution.

KEY FEATURES

- Compact footprint and RS-485 connectivity
- 12 or 24 V DC input power support
- Supports being clustered or distributed to best suit the installation environment
- Output relays support assignment to door related functions or for general purpose use
- Initiates commands by operator, by time schedules, or by events
- Output relays are configurable for fail-safe or fail secure operation
- Capable of controlling outboard devices, by the condition of selected system devices locally without ACM intervention



APPLICATION NOTES

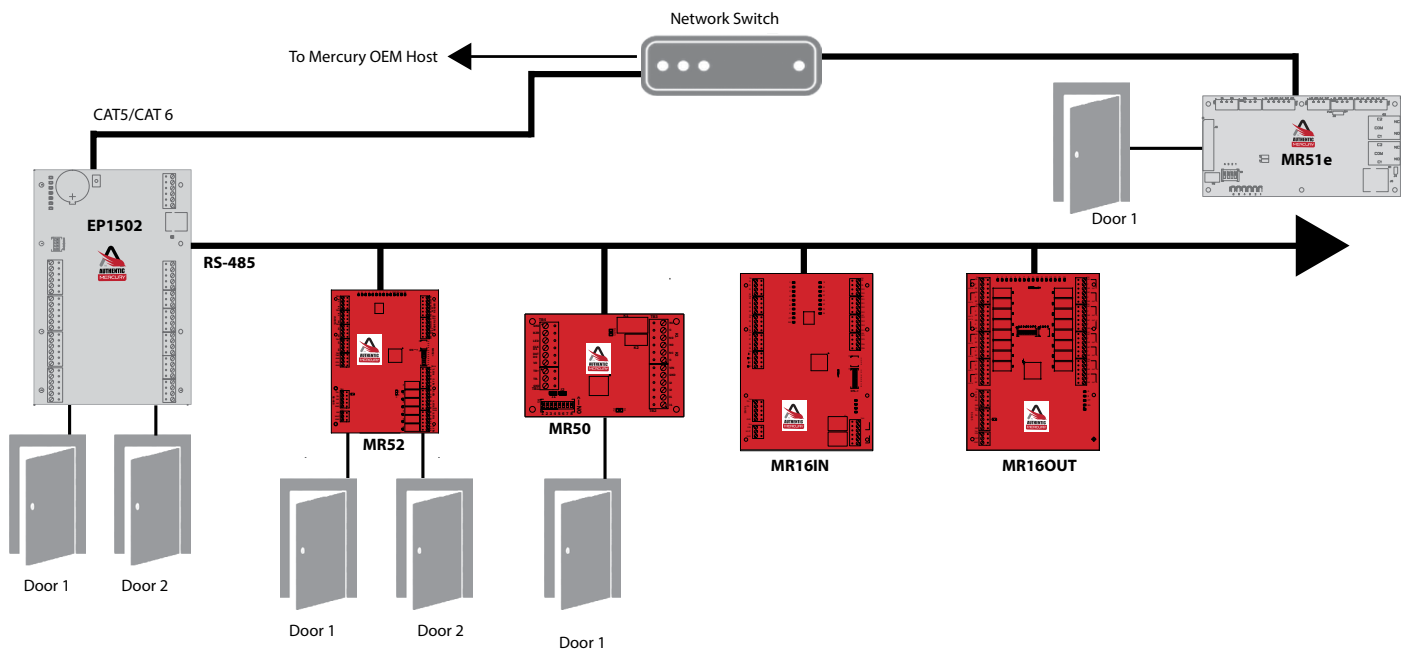
The AC-MER-CONT-MR16OUT is an essential component to support Mercury's flexible, building-block approach to access control system design. The versatile AC-MER-CONT-MR16OUT offers unmatched power to broaden the range of devices and building controls (such as lighting or HVAC) that can be included in system design.

Relay operation can be initiated by direct operator commands, by time schedules, or by event-based procedures. The relays support "On," "Off," and "Pulse" commands. A pulse can range from 0.1 seconds to over 9 hours.

Specifications

TECHNICAL SPECIFICATIONS	Primary Power	12-24 Vdc +/- 10%, 1100mA maximum
	Host Communication	RS-485, 2-wire, 4,000' (twisted pair with shield, Belden 9841)
	Inputs	2 Dedicated: Tamper and Power Monitor
	Output Relays	Sixteen Form-C Relays: Normally open contact (NO): 5A @ 30 Vdc resistive Normally closed contact (NC): 3A @ 30 Vdc resistive
	Dimensions	6.0' W x 8.0' L x 1.0' H, (152mm W x 203mm L x 25mm H)
	Temperature	0-70 °C operational, -55-85 °C storage
	Humidity	5 to 95% RHNC
	Standards	UL 294 recognized, CE compliant, RoHS, FCC Part 15 Subpart B

ORDERING INFORMATION	AC-MER-CONT-MR16OUT	16 Relay Output Control Module (Mercury MR16OUT-S3)
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UltraTech UT 1270

Ultratech Power Products UT 1270 12V 7Ah Sealed Lead Acid Alarm Battery

Which alarm batteries do technicians, installers, and security professionals choose when buying 12 Volt 7 Amp Hour SLA Backup Alarm Batteries?



Ultratech
Power
Products UT
1270 12V
7Ah Sealed
Lead Acid
Alarm
Battery

UltraTech Power Products UT 1270, time and time again. UltraTech Power Products is known to be the most reputable brand in the country. When choosing a 12 Volt 7 Amp Hour SLA battery, the UltraTech UT 1270 is the ideal backup power source.

Here are a few reasons the UT 1270 (commonly known as the IM-1270) is recognized as the best in the industry:

- 2 Year Manufacturer's Warranty - (Covers Defect Only, not Lifespan)
- Highest quality parts in the industry: ISO 9002 Certified
- Easy Installation
- Rechargeable
- Non-Spillable: Can be operated in any position without leakage

This battery is the direct replacement for all previous versions of UltraTech UT1270.

Ultratech batteries are often found in burglar alarm systems, fire alarm systems, access control systems, low-voltage lighting, uninterruptible power supplies (UPS) systems, as well as other security and battery backup applications. Both Residential and commercial Alarm panels made by Honeywell Ademco, Napco, DSC and GE are common applications of the UltraTech UT 1270. The UT1270 is also used to replace existing 12V 7AH batteries found in UPS and Battery Backup Systems.

Terminals: Fast-on F1 (0.187") Connectors

[Click Here for the UT 1270 Spec Sheet](#)

Battery Specifications:

20Hr. rate of 0.35A to 10.5V 7Ah
10Hr. rate of 0.65A to 10.5V 6.5Ah
5Hr. rate of 1.20A to 10.2V 6Ah
1Hr. rate of 4.20A to 9.6V 4.2Ah

Weight (approx.): 5.42 pounds (2.46kgs.)

Energy Density (20Hr. rate) - 1.46WH/ cubic inch (89.4WH/ liter)

Maximum Discharge Current with Standard Terminals - 35A
Amperes

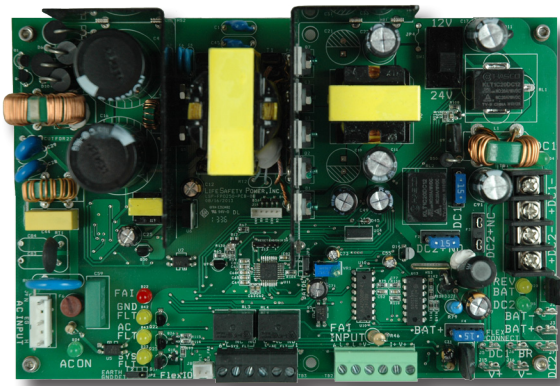
Charge Retention (shelf life) at 60° F (20° C) :

1 Month 97%
3 Month 91%
6 Month 85%

Life Expectancy:

Standby use - 3 to 5 years

Cycle use (approx.) - 100% Depth of Discharge 250 cycles, 50%
Depth of Discharge 550 cycles, 30% Depth of Discharge 1200 cycle.



DESCRIPTION

FLEXPOWER is a patented power management system for security and life safety applications.

The FlexPower FP0150 is an offline switchmode power supply-battery charger specifically designed for the lifesafety industry capable of providing two outputs, user selectable for 12 or 24VDC.

One output provides continuous output power and the second is programmable to either fail-safe or fail-secure lock operation, when the on board fire alarm interface is activated.

Complete fault detection and reporting, with programmable fault delays, is provided along with datalogging capability of fault occurrence, battery usage time and current power supply status.

Agency Listings

UL294, UL603, UL864, UL1076, UL1481, UL2044, UL2572, FCC PART 15, Subpart B
ULC S318, ULC S319, ULC S527, CSA C22.2#107.1, CSA 22.2 #60950,
CSFM Approved / CE

FEATURES AND FUNCTIONS

12 or 24VDC user selectable

- ◆ 12A continuous or switched at 12VDC
- ◆ 6A continuous or switched at 24VDC

Fire Alarm Interface (FAI)

- ◆ User programmable fail-safe or fail-secure operation

Programmable 2A battery charging

- ◆ Independent charging circuit meets stricter UL output tolerance reqts
- ◆ Microprocessor dual rate charging restores battery sets from 4 to 80 Ah
- ◆ Automatic switch over to battery when AC fails

Protection

- ◆ Over load protection
- ◆ Short circuit protection
- ◆ Over temperature protection

Supervision

- ◆ AC Fail (form "C" contacts)
- ◆ System Fault (form "C" contacts) may be triggered by low/no battery, short to earth ground and power supply failure

Visual Indicators

- ◆ AC input
- ◆ DC1, DC2 output
- ◆ Fire alarm activation
- ◆ AC fault
- ◆ System fault
- ◆ Short to earth ground
- ◆ Reverse battery polarity

Reporting and Monitoring

- ◆ Programmable AC and System fault delays
- ◆ Fire alarm interface for egress lock control
- ◆ Cumulative AC and System fault counters (user resettable)
- ◆ Total battery service hours (user resettable)
- ◆ Total power supply run-time hours
- ◆ Network or PC reporting of all system conditions
 - Requires DL1 USB cable for PC interface
 - Requires NetLink module for WAN/LAN connection

ELECTRICAL RATINGS

Parameter	Rating
Input Voltage	120 or 230VAC
Input Power (max)	170 Watts
Output Power	150 Watts
Efficiency	88%
Operating Temperature Range	0 - 49°C (32 - 120°F)
Output Voltage	12 VDC 24 VDC
Output Current	12 Amps 6 Amps
Battery Charge Capacity	80 Amp Hours
Default Charge Current	2 Amps
Programmable Charge Current	2A 1A 0.5A 0.25A
Output Ripple	120 mVp-p
Line Regulation	± 0.1%
Load Regulation	± 2%
BTU Rating	66 BTU/Hr
Continuous Power Outputs	1
Switched Power Outputs	1
Fire Alarm Interface (FAI)	Yes

Ordering

Model No.	Mechanical Information
FP0150	Size: 5.5" x 8.25" x 2.5" Weight: 1.5 lb.

Provided with AC cable and mounting hardware

Lifetime Warranty



FLEXPOWER® STANDARD FEATURES

SureCharge® The microprocessor controlled charging process used by the FPO power supply guarantees proper charging current for the battery and the fastest charge time. The constant current charger provides a linear, predictable charge time for any lead acid, gel battery set from 4 to 80 amhours without stress or damage to the battery.

PowerCom® LifeSafety Power’s proprietary software for power supply monitoring, programming and reporting through PC or network interface.

VSelect® One single switch for configuring the output between 12 and 24VDC eliminates field errors and allows for the reduction and simplification of service inventory by eliminating the necessity of stocking units in each voltage.

TruWatt® Output power capability of the power supply remains constant regardless of the output voltage setting. For example, a FlexPower 250 watt supply will provide 10 amps at 24VDC and 20 amps at 12VDC, allowing the same number of locking devices to be used at either the 12 or 24V setting.

PwrHealth™ Intelligent battery charging and battery state monitoring improve battery performance. Install hours are tracked and reported for optimum service life.

FlexConnect® Power supply and accessory board interconnection system uses common mounting footprints, predrilled mounting holes, snap-in standoffs, pluggable wires, and a dual buss distribution architecture to simplify installation and service.

Reliability+® FPO power supplies are fully fault protected and feature fiberglass printed circuit boards to protect the electronics from water and other corrosive elements found in industrial settings. High efficiency design promotes low heat generation leading to longer service life.

GreenSmart® FlexPower systems are RoHs compliant, lead-free, and meet the latest state, federal and European requirements for energy efficiency.

DataLink® Key power functions are monitored and reported through PC or browser interface with the PowerCom management software.

FAULT DETECTION AND REPORTING

The comprehensive fault detection and reporting mechanism of the FPO series provides for both local and remote fault reporting.

On-board visual indicators are provided to give immediate installer feedback. Independent form C relay contacts are provided to report AC and system fault conditions to remote or auxiliary equipment.

Detected Fault Conditions:

- ◆ AC Power
 - AC loss, AC low
- ◆ DC Power and System
 - Abnormal or loss of power supply operation
 - Over current, over temperature condition
 - DC output high, low
 - Battery Presence, Earth Ground (user optional)
 - Reversed battery condition, blown fuse or loss of output voltage on selected accessory boards (detected on the power supply)

FIRE ALARM INTERFACE (FAI)

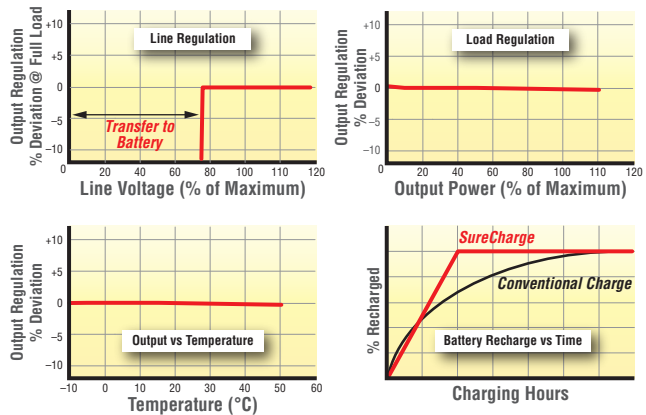
Activation Methods

- ◆ DC voltage: 9 to 33VDC, 3 to 15mA
- ◆ Dry contact NO/NC

Latch Enable

- ◆ NC contact set or switch (typically for Canadian use)

POWER SUPPLY PERFORMANCE GRAPHS



LifeSafetyPower.com

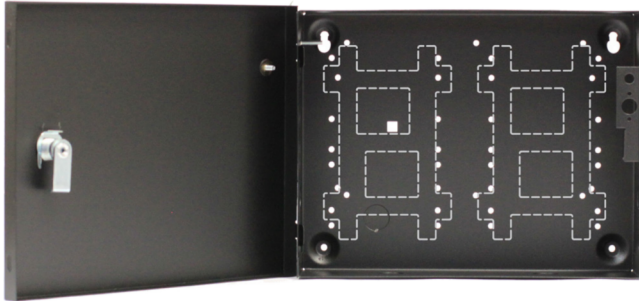
(888) 577-2898
 info@lifesafetypower.com

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LifeSafety Power, Inc.
 750 Tower Road, Unit B
 Mundelein, IL 60060 USA



Overview

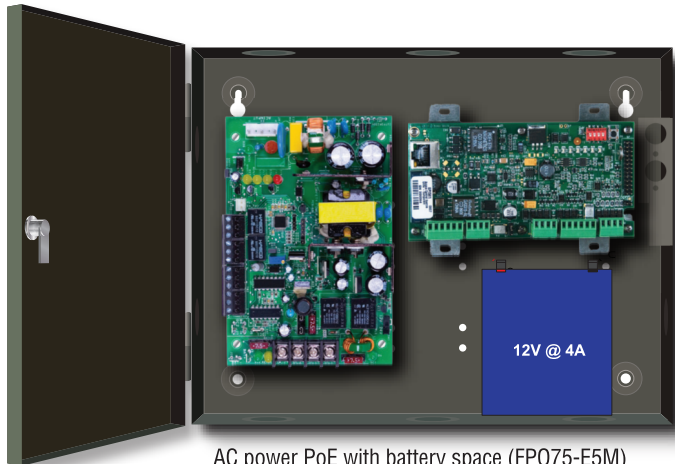
The E5M enclosure is an ideal solution for remote door installations. The E5M is engineered to mount one or two Mercury PoE controllers such as the EP1501 or MR51e in one compact 8.5" x 11" x 3" footprint. If DC power is required within the enclosure, an FPO75 power supply may be added in place of one Mercury controller.

Features

- ◆ Small size ideal for single door controller
- ◆ Fits 12VDC power supply, EP controller and 4Ah battery
- ◆ 19 Gauge steel with textured black finish
- ◆ Lock and tamper switch standard
- ◆ Predrilled for Mercury EP1501 and MR51e controllers
- ◆ Mercury mounting hardware included

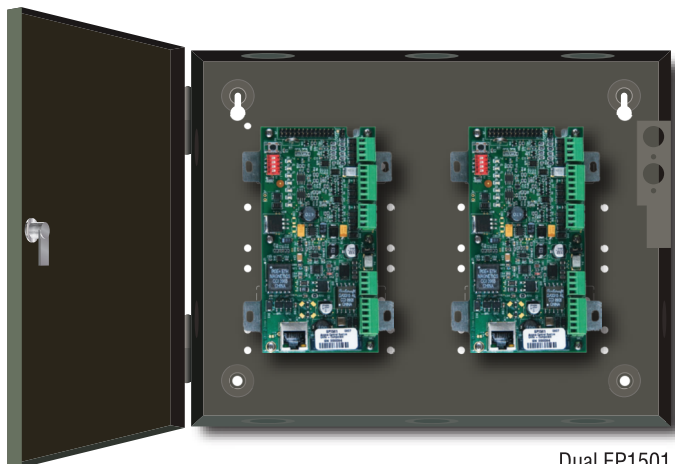
Part No.	Size	Weight
E5M	8.5"H x 11"W x 3.0"D	7 lb.

E5M Typical Mounting Patterns



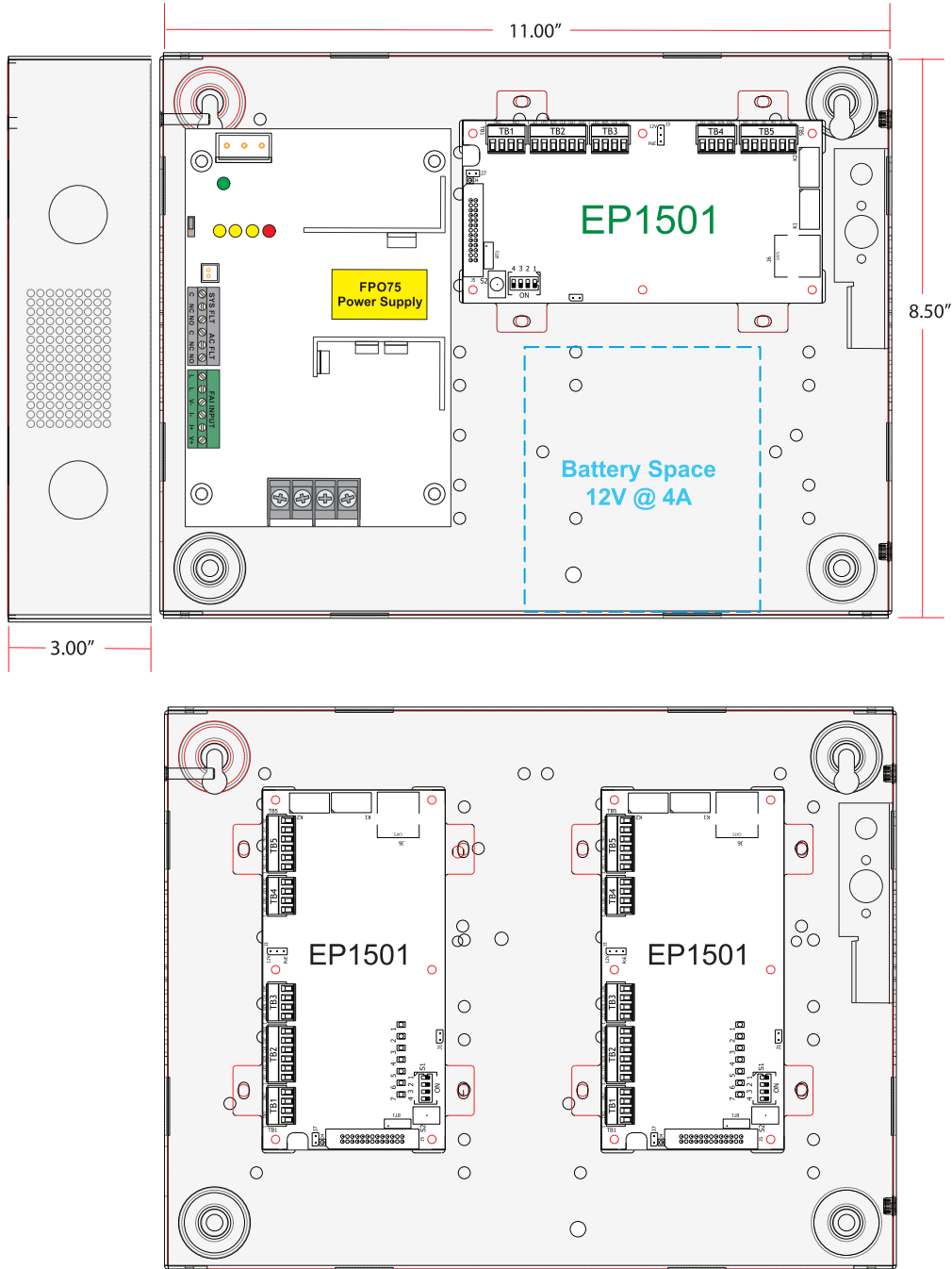
AC power PoE with battery space (FPO75-E5M)

Mercury Controller	Board Size	Max Fit	W/Power
EP1501 / MR51e	5.5 x 3.6 (bracket)	2	1



Dual EP1501

E5 Enclosure Dimensions (H x W x D)
8.50" x 11.00" x 3.00" (21 x 28 x 7.6 cm)



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<p>Worldwide Headquarters LifeSafety Power, Inc. 304 Terrace Drive Mundelein, IL 60060 USA PH 888-577-2898 info@lifesafetypower.com</p>	<p><i>Important: All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their particular application. LifeSafety Power makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. LifeSafety Power's only obligations are those in the LifeSafety Power Standard Terms and Conditions of Sale for this product, and in no case will LifeSafety Power or its distributors be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Specifications are subject to change without notice. In addition, LifeSafety Power reserves the right to make changes—without notification to Buyer—to processing or materials that do not affect compliance with any applicable specification.</i></p>
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OPTEX

Passive Infrared

Door Sensor

OP-08C



Security

Reliable

Flexible

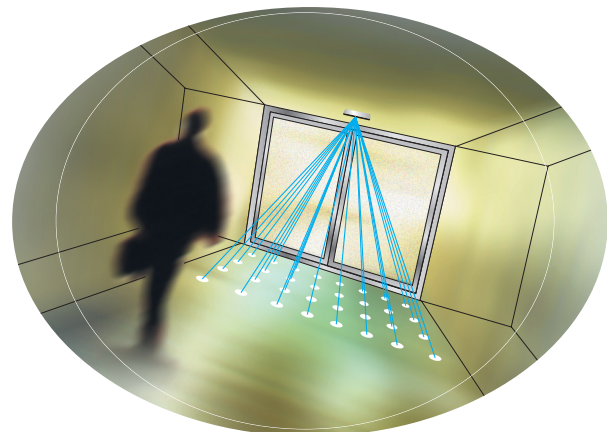
Fail secure

Passive Infrared **fail safe** activation

QUALITY

Large detection area REQUEST TO EXIT

The Optex OP-08C passive infrared door sensor is a reliable and cost effective sensor for request-to-exit and security applications. The compact housing makes it easy to install in surface, recessed or ceiling applications.



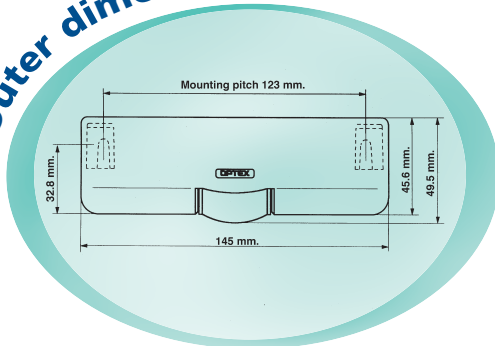
Flexible installation

The Optex OP-08C is very easy to install. Its compact size is ideal for mounting on the header, transom or ceiling, up to 4m (13 feet) high.

Large detection area

The detection pattern of the OP-08C consists of 10 individual zones, providing high sensitivity even in large areas. Rotating the spherical lens easily changes the detection area from standard to large size. By using area masking seals, the detection pattern's size and shape can be further customized to best fit the application.

Outer dimensions



Passive Infrared Door Sensor

Specifications

Model	OP-08C
Mounting Height	max. 13'1" (4.0m)
Detection Area Adjustments	See chart
Detection Technique	Passive Infrared
Power Supply	12 - 24VAC/DC
Current Draw	50mA max.
Power/Operating Indicator	LED ON: Standby LED OFF: Detection
Output Contact	Form C Relay 50V, 0.3A (Resistance Load)
Relay Hold Time	Approx. 1.5s
Operating Temperature	-4°F - +131°F (-20°C - +55°)
Outer Dimensions	123 x 50 x 32mm (w x h x d)
Weight	3.2oz. (90g)
Accessories	2m Connection Cable 2 Mounting Screws Mounting Template Area Masking Seal
Available Colors	Black (OP-08CBL), Silver (OP-08CS) and White (OP-08CW)

Design

With a compact, sleek design, the OP-08 is ideal for virtually all light commercial applications. It can be recessed, surface mounted or ceiling mounted and comes in a choice of black, silver or white housing.

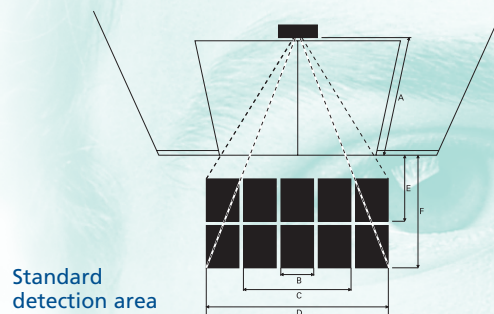
All conditions

The OP-08's advanced circuitry minimizes false activations, making it ideal for environments with sunlight, wind, rain, snow or radio frequency noise.

Quality

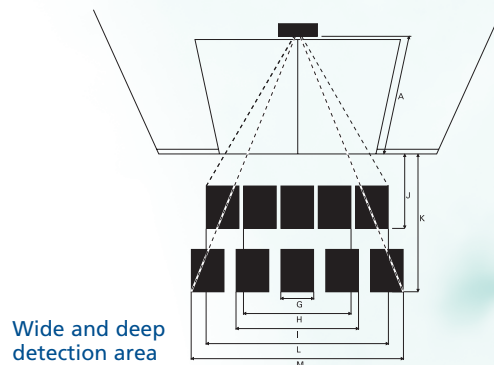
Optex automatic door sensors guarantee premium performance and include a 3-year full replacement warranty.

Detection area chart



Standard detection area

Mounting Height A	8'2" (2.50m)	9'8" (3.00m)	13'1" (4.00m)
Area Width B	1'0" (0.30m)	1'3" (0.40m)	1'6" (0.50m)
Area Width C	5'9" (1.80m)	6'9" (2.10m)	9'5" (2.90m)
Area Width D	11'8" (3.60m)	14'1" (4.30m)	18'7" (5.70m)
Area Depth E	2'6" (0.80m)	3'3" (1.00m)	4'3" (1.30m)
Area Depth F	7'5" (2.30m)	9'2" (2.80m)	12'1" (3.70m)



Wide and deep detection area


Mounting Height A	8'2" (2.50m)	9'8" (3.00m)	13'1" (4.00m)
Area Width G	1'6" (0.50m)	2'0" (0.60m)	2'6" (0.80m)
Area Width H	4'9" (1.50m)	5'9" (1.80m)	8'2" (2.50m)
Area Width I	8'2" (2.50m)	8'5" (2.90m)	12'8" (3.90m)
Area Depth J	4'6" (1.40m)	5'2" (1.60m)	7'2" (2.20m)
Area Depth K	10'8" (3.30m)	12'8" (3.90m)	17'1" (5.20m)
Area Width L	9'8" (3.00m)	12'1" (3.70m)	16'1" (4.90m)
Area Width M	16'4" (5.00m)	19'7" (6.00m)	26'6" (8.10m)

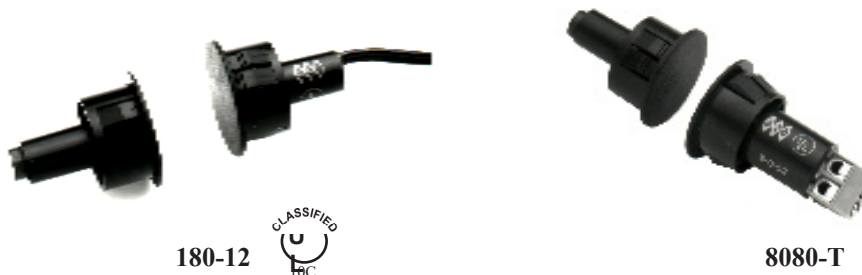
RECESSED 3/4" & 1" STEEL DOOR SWITCH SET



180/184/8080-T SERIES



- ◆ Recessed Magnetic Contact
- ◆ 12" #22AWG Leads or Screw Terminals
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
 - ◆ Supervisory Loops Upon Request
- ◆ Switches and Magnets Available Separately
 - ◆ Colors: White, Brown, Gray, Black
 - ◆  Indicates U.L. 10C Fire Rated







180-12



8080-T

PART NUMBERS:

		Closed Loop	Open Loop	SPDT	DPDT
Standard Gap Up To 1/2" On Steel*	3/4" Dia.	180-12 	185-12	190-12	195-12
	1" Dia.	184-12 	189-12	194-12	199-12
	3/4" Dia.	8080-T	8585-T		
	1" Dia.	8484-T	8989-T		
Wide Gap 3/4" + On Steel*	3/4" Dia.	180-12WG 	185-12WG	190-12WG	195-12WG
	1" Dia.	184-12WG 	189-12WG	194-12WG	199-12WG
	3/4" Dia.	8080-TWG	8585-TWG		
	1" Dia.	8484-TWG	8989-TWG		

*Gaps will increase substantially for installations other than steel

*Gaps up to one inch on steel when paired with MC-180 Door Channel Magnet

7/8" Diameter Also Available. P/N 81-12 and 81-12WG. White or Black only. Please call factory.

WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

GEORGE RISK INDUSTRIES, INC.
G.R.I. PLAZA
KIMBALL, NE 69145



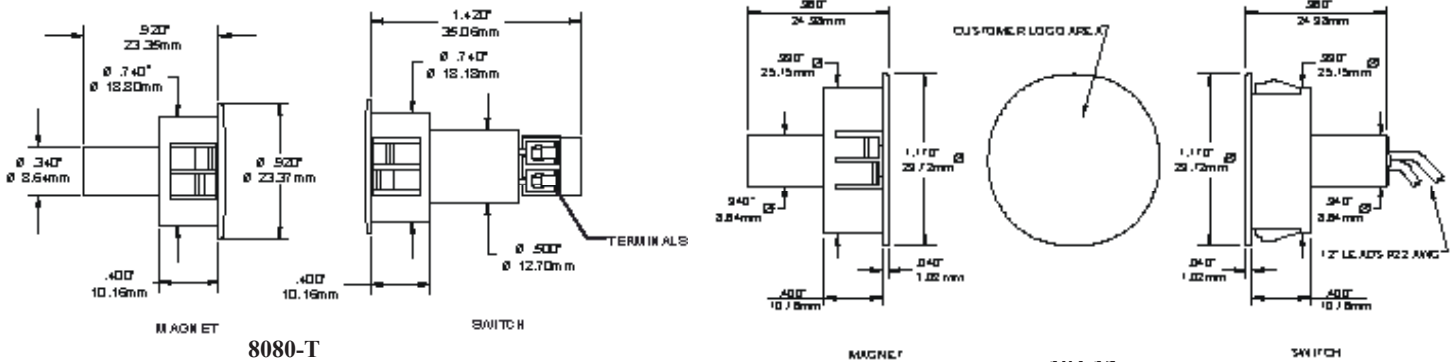
MADE IN U.S.A.

TOLL-FREE 1-800-445-5218
TOLL-FREE 1-800-523-1227
(308) 235-4645
FAX (308) 235-3561
E-MAIL: sales@grisk.com
WEB SITE: www.grisk.com



RECESSED 3/4" & 1" STEEL DOOR SWITCH SET

INSTALLATION APPLICATIONS: The G.R.I. 180-12 is the industry standard 3/4" diameter recessed steel door switch set with 12" leads. The innovative G.R.I. 8080-T series is a 3/4" diameter recessed switch set designed for residential, commercial and industrial steel doors and frames. The shorter length terminals makes the installation of the set quick and simple.



GRI products meet or exceed these minimum general specifications:

PART NUMBER	LOOP TYPE	ELECTRICAL CONFIG.	REED FORM	MAXIMUM INITIAL CONTACT RESISTANCE (Ω)	MAXIMUM CONTACT RATING (W)	MAXIMUM SWITCHING VOLTAGE (VDC)	MAXIMUM SWITCHING CURRENT (A)
180-12	Closed	N/O	A	.150	10	200	.400
180-12WG	Closed	N/O	A	.150	10	200	.400
184-12	Closed	N/O	A	.150	10	200	.400
184-12WG	Closed	N/O	A	.150	10	200	.400
8080-T	Closed	N/O	A	.150	10	160	.400
8080-TWG	Closed	N/O	A	.150	10	160	.400
8484-T	Closed	N/O	A	.150	10	160	.400
8484-TWG	Closed	N/O	A	.150	10	160	.400
185-12	Open	N/C	B	.140	5	175VDC	.250
185-12WG	Open	N/C	B	.140	5	175VDC	.250
189-12	Open	N/C	B	.140	5	175VDC	.250
189-12WG	Open	N/C	B	.140	5	175VDC	.250
8585-T	Open	N/C	B	.140	5	175VDC	.250
8585-TWG	Open	N/C	B	.140	5	175VDC	.250
8989-T	Open	N/C	B	.140	5	175VDC	.250
8989-TWG	Open	N/C	B	.140	5	175VDC	.250
190-12	Open/Closed	SPDT	C	.140	5	175VDC	.250
190-12WG	Open/Closed	SPDT	C	.140	5	175VDC	.250
194-12	Open/Closed	SPDT	C	.140	5	175VDC	.250
194-12WG	Open/Closed	SPDT	C	.140	5	175VDC	.250
195-12		DPDT	C X 2	.140	5	175VDC	.250
195-12WG		DPDT	C X 2	.140	5	175VDC	.250
199-12		DPDT	C X 2	.140	5	175VDC	.250
199-12WG		DPDT	C X 2	.140	5	175VDC	.250

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KIMBALL, NE 69145



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WEB SITE: www.grisk.com



1500 & 1600 Series

Dynamic

Elegant Form & Function

- Adjustable integrated shim for changing door conditions
- Field upgradeable options
- Integrated monitoring of latchbolt and/or door position switch

Flexible

Designed with the Installer in Mind

- Accommodates all brands of mortise and cylindrical locks
- Dual voltage 12/24VDC
- Field selectable fail safe/fail secure

Modular

Convenient & Versatile

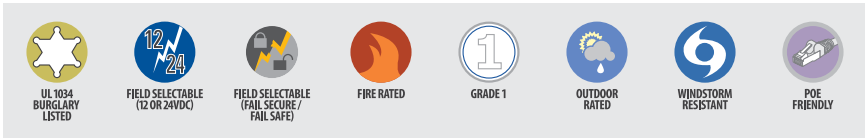
- Interchangeable accessories work with both models
- Field serviceable components
- All faceplates are interchangeable between the 1500 and 1600



Discover the Difference

The most advanced, modular electric strikes that work with every brand of cylindrical or mortise locks designed to work with a 4-7/8" strike plate.

ASSA ABLOY, the global leader in door opening solutions



1500 & 1600 Series Electric Strikes

Features

Standard Features

- Stainless steel construction
- Tamper-resistant
- Dual voltage 12/24 VDC continuous duty
- Static strength 1,500 lbs
- Dynamic strength 70 ft-lbs
- Endurance 1,000,000 cycles
- Field selectable fail safe/fail secure
- Non-handed
- Interchangeable faceplates and accessories
- Field replaceable springs and actuator
- Fully finished faceplate, keeper, case and trim
- Field adjustable integrated shim
- ElectroLynx® connectors

Optional Features

- LM** » Lock monitor
- DLM** » Dual lock monitors
- LMS** » Lock monitor and strike monitor
- DLMS** » Dual lock monitors and strike monitor

Accessories

- 157** » Torx screws
- HESCUT-MTK** » Metal template kit
- 1500-104-xxx** » Lip extension trim adapter (finish to match)
- 1600-104-xxx** » Lip extension trim adapter (finish to match)
- 1500-106-xxx** » 4500 adapter and trim enhancer kit (finish to match)
- 1600-106-xxx** » 1006 adapter and trim enhancer kit (finish to match)
- OPT-1SRK** » Spring replacement kit
- OPT-1LM** » Single lock monitor
- OPT-1DLM** » Dual lock monitors
- MOD-1SOL** » Solenoid replacement module

Finishes

- 605** » Bright brass
- 606** » Satin brass
- 612** » Satin bronze
- 613E** » Dark oxidized satin bronze
- 629** » Bright stainless steel
- 630** » Satin stainless steel
- BLK** » Black suede



Field adjustable integrated shim

Shim will adjust out 1/8"

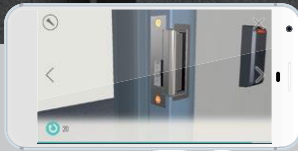


Dual lock monitoring

Easy install with BILT.

Assemble with **BILT.**

Download the free BILT app for 1500 & 1600 Series 3D step-by-step install instructions.



Specifications

Certifications

- UL 10C fire-rated, 3 hour single door (fail secure only)
- UL 10C fire-rated, 1-1/2 hour double door
- CAN4-S104 (ULC-S104) fire door conformant
- ANSI/SDI 250.13 windstorm resistant
- ANSI-ASTM E330
- Florida Building Code approved TAS 201, 202, 203
- UL 1034 burglary-resistant listed and suitable for outdoor use
- UL 294 (6th Edition) listed
- ANSI/BHMA A156.31, Grade 1
- California Fire Marshal listed
- NFPA-252 fire door compliant
- ASTM-E152 fire door compliant
- PoE friendly
- RoHS compliant







Frame Application

- Metal
- Wood

Electrical

- .24A at 12VDC
- .12A at 24VDC

Comparison Chart

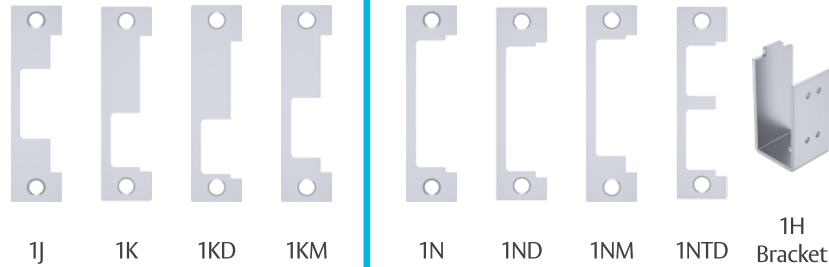
Manufacturer	WITH DEADBOLT			WITHOUT DEADBOLT		
	HES	HES	Competitor	HES	HES	Competitor
Model						
Certifications & Listings						
UL 10C, 3 hour single door fire-rated	Y	Y	Y	Y	Y	Y
UL 10C, 1-1/2 hour doubled door fire-rated	Y	Y	N	Y	N	N
CAN4-S104 (ULC-S104) fire door conformant	Y	Y	Y	Y	Y	Y
UL 1034 burglary-resistant listed	Y	Y	Y	Y	Y	Y
UL 1034 burglary-resistant listed for outdoor use	Y	Y	N	Y	N	N
UL 294 (6th edition) listed	Y	Y	N	Y	Y	N
Environmental Product Declaration	Intended	Y	N	Intended	Intended	N
ANSI/BHMA A156.31, Grade 1	Y	Y	Y	Y	Y	Y
NFPA-252 fire door conformant	Y	Y	Y	Y	Y	Y
ASTM-E152 fire door conformant	Y	Y	Y	Y	Y	Y
ANSI/SDI 250.13 windstorm resistant	Y	Y	N	Y	N	N
ANSI-ASTM E330	Y	Y	N	Y	N	N
Florida Building Code approved TAS 201, 202, 203	Y	Y	N	Y	N	N
California Fire Marshal listed	Y	N	N	Y	Y	N
RoHS compliant	Y	Y	?	Y	Y	?
Patented design	Applied	Y	Applied	Applied	Y	Applied
Standard Features						
Accommodates cylindrical and mortise latchbolts	Y	Y	Y	Y	Y	Y
Accommodates all brands of mortise locks	Y	Y	Y	Y	N	Y
Accommodates 1" deadbolts	Y	Y	Y	N	N	N
Release and recapture 1" deadbolt	N	Y	N	N	N	N
Installs in fire listed 2" frame with 1/2" drywall	N	N	N	Y	Y	Y
Strike body depth	1-5/8"	1-11/16"	1-5/8"	1-3/8"	1-3/8"	1-3/8"
Strike cavity height	3-1/4"	3-1/4"	3-1/4"	3-1/4"	2-11/16"	3-1/4"
Tamper resistant, stainless steel construction	Y	Y	Y	Y	Y	Y
Static strength (lbs)	1500	3070	1500	1500	3000	3250 Factory Test
Dynamic strength (ft-lbs)	70	350	70	70	70	-
Endurance (cycles)	1M	1M	2M Factory Test	1M	1M	1M
Full finished face plate, keeper, case and trim	Y	N	N	Y	N	Y
Field selectable fail safe/fail secure	Y	N	Y	Y	Y	N
Non-handed	Y	Y	Y	Y	Y	Y
Horizontal adjustment	Integrated	Shims	Shims	Integrated	Shims	Shims
Plug-in connector	Y	Y	Y	Y	Y	Y
Trim enhancer included	Y	Y	Y	Y	Y	Y
Lip extension (sizes)	1/2"	1+"	N	1/2"	N	1/4"
Lock monitor	Field Install*	Y	Field Install	Field Install*	Y	Y
Lock door position monitor	Factory Install	N	N	Factory Install*	N	N
Strike locked monitor	Y	N	N	Y	Y	N
Metal template kit for easy installation	Y	Y	N	Y	Y	N
Frame type	All	All	All	All	All	All
Available finishes	7	7	1	7	7	6
Standard Electrical						
Dual voltage 12 or 24	Y	Y	Y	Y	Y	Y
AC or DC	Y	N	Y	Y	Y	Y
Current at 12 volts	0.24 A	0.45 A	0.38 A	0.24 A	0.24 A	0.24 A
Current at 24 volts	0.12 A	0.25 A	0.19 A	0.12 A	0.12 A	0.11 A
Continuous duty	Y	Y	Y	Y	Y	Y
PoE friendly (under 0.25 amps)	Y	N	Y	Y	Y	Y

*Order non-standard option factory installed.

Interchangeable Faceplate Kits

for Latchbolts and Deadbolts

1500 & 1600
Series
1LB Faceplate
Kit for
Latchbolts



1600
Series
1DB Faceplate
Kit for
Deadbolts

How to Order

1500	C	-	630	LM
Strike Series	Complete	Voltage	Finishes	Optional Features
Choose the electric strike series number	Specify to include select faceplates and hardware in the box	Leave blank 1500/1600 are dual voltage	Choose finish number Complete Pacs are only available in the 630 finish	Select options
<ul style="list-style-type: none"> 1500 1600 	<ul style="list-style-type: none"> C - 1500C CS - 1600CS CLB - 1600CLB CDB - 1600CDB 	<ul style="list-style-type: none"> n/a - dual voltage 	<ul style="list-style-type: none"> 605 - Bright brass 606 - Satin brass 612 - Satin bronze 613E - Dark oxidized satin bronze 629 - Bright stainless steel 630 - Satin stainless steel BLK - Black suede 	<ul style="list-style-type: none"> LM - Lock monitor DLM - Dual lock monitors LMS - Lock monitor and strike monitor DLMS - Dual lock monitors and strike monitor

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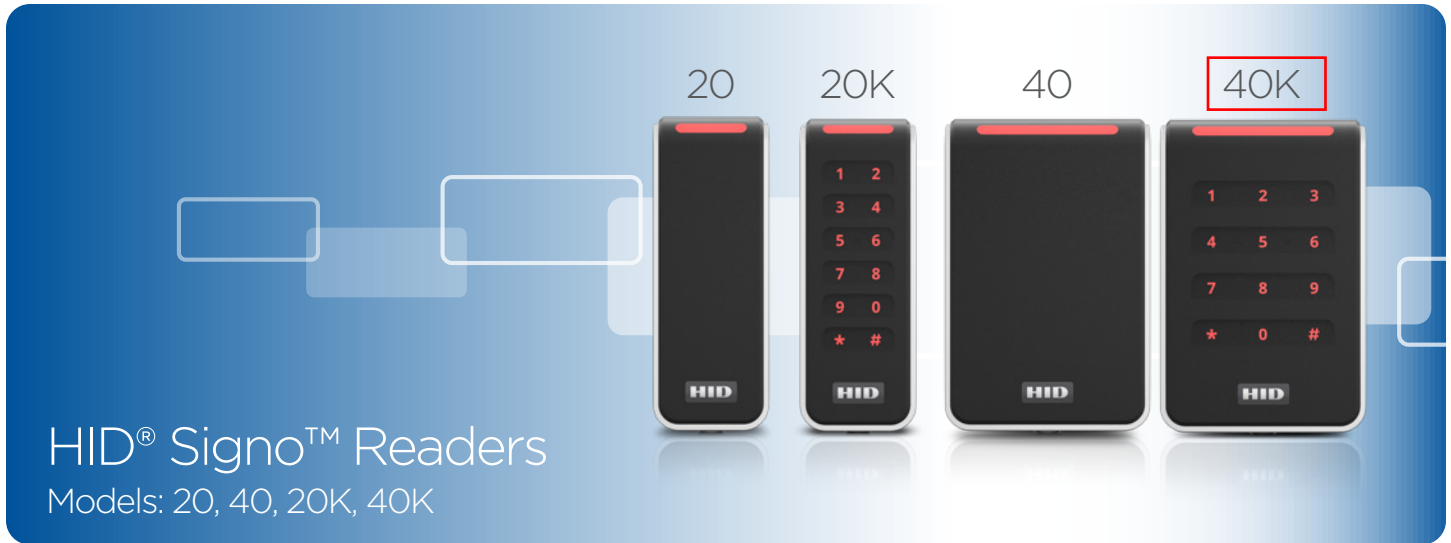
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ASSA ABLOY

ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience

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HID® Signo™ Readers

Models: 20, 40, 20K, 40K

READY FOR THE FUTURE NOW

- Mobile-ready by default, including Apple's Enhanced Contactless Polling (ECP) to support credentials in Apple Wallet
- Sleek, innovative design to suit modern architecture
- Integrated OSDP for secure authentication and configuration post installation
- Built on a hardware platform designed to be adaptable to support future technology
- Designed to seamlessly integrate into the HID Origo® ecosystem

THE SIGNATURE LINE OF READERS FROM HID GLOBAL

- **Highly Versatile** — Support for the widest range of credential technologies, including HID Mobile Access® via native Bluetooth and Near Field Communication (NFC).
- **Unparalleled Performance** — Ultra secure storage of cryptographic keys on certified secure element hardware, plus a new surface detection feature that enables the reader to automatically recalibrate and optimize read range performance.
- **Connected to the Future** — All readers include out-of-the-box support for Open Supervised Device Protocol (OSDP) for secure bidirectional communication.

HID Signo™ is the signature line of physical access control readers from HID Global. The versatility, performance and connected capabilities of HID Signo readers set a new industry benchmark for the most highly adaptable, interoperable and secure approach to electronic access control.

Offering an unparalleled breadth of functionality, HID Signo affords security system installers and administrators a simple and effective approach to secure access control for almost any scenario.

With support for the widest array of credential technologies — past, present and future — HID Signo is the perfect choice for those looking to make the transition to a secure authentication technology.

HID Signo readers transcend the traditional approach to security by being designed to be connected and managed remotely without needing to physically touch each device. This functionality empowers access control systems to dynamically respond as new needs, configurations or threats arise.

POWERFULLY SECURE

- Multi-Layered security to ensure data authenticity and privacy
- EAL5+ Certified Secure Element Hardware
- Native OSDP secure channel capability
- Trusted secure authentication using the SIO data model
- Supports iCLASS Elite™ and Corporate 1000 Programs

MEET EVERY NEED, ADAPT TO ANY SITUATION

- Go mobile with native Bluetooth and NFC support
- Integrated 125 kHz credential read support for easy migration
- Supports over 15 common credential technologies
- Flush mount terminal block and pigtail wiring options
- Robust outdoor performance with an IP65 rating

MANAGE, UPGRADE AND CONFIGURE

- Easily and securely managed using HID Reader Manager®
- Configure via a mobile device or OSDP
- Update firmware in response to threats
- Personalize by configuring audio visual or keypad settings
- Deactivate legacy credential technology to conclude secure migration

SPECIFICATIONS

HID Signo Reader Model	20	20K	40	40K
2.4 GHz (Bluetooth) Credential Compatibility	Mobile Credentials powered by Seos® (HID Mobile Access)			
13.56 MHz (NFC) Credential Compatibility	Seos, iCLASS SE®, iCLASS SR®, iCLASS®, MIFARE Classic, MIFARE DESFire EV1/EV2, Mobile Credentials powered by Seos (HID Mobile Access)			
125 kHz Credential Compatibility	HID Proximity®, Indala® Proximity, AWID Proximity, and EM Proximity			
Typical Read Range¹	Seos®, MIFARE Classic, MIFARE DESFire EV1/EV2 & ISO14443A Single Technology Cards - 1.6 to 4 in (4 to 10 cm) HID / AWID Proximity®, Indala Proximity®, EM Proximity & 125 kHz Single Technology Cards - 2.4 to 4 in (6 to 10 cm)			
Mounting	Suited for mullion-mount door installations or any flat surface mounting		Suited to mount and cover single gang switch boxes with a slotted mounting plate for alternate back-box spacing	
Color	Black bezel with silver trim baseplate ²			
Keypad	No	Yes (2 x 6 layout)	No	Yes (3 x 4 layout)
Dimensions (width x length x depth)	1.77 in x 4.78 in x 0.77 in (45 mm x 121.5 mm x 19.5 mm)	1.78 in x 4.79 in x 0.85 in (45 mm x 121.5 mm x 21.5 mm)	3.15 in x 4.78 in x 0.77 in (80 mm x 121.5 mm x 19.5 mm)	3.16 in x 4.79 in x 0.85 in (80 mm x 121.5 mm x 21.5 mm)
Product Weight	Pigtail: 3.35 oz (95 g) Terminal: 2.65 oz (75 g)	Pigtail: 3.88 oz (110 g) Terminal: 3.17 oz (90 g)	Pigtail: 4.94 oz (140 g) Terminal: 4.23 oz (120 g)	Pigtail: 5.64 oz (160 g) Terminal: 4.94 oz (140 g)
Operating Voltage	12V DC			
Current Draw³	NSC ⁴ : 60 mA Peak: 250 mA Max. Avg: 70 mA IPM ⁵ : 45 mA	NSC ⁴ : 65 mA Peak: 250 mA Max. Avg: 75 mA IPM ⁵ : 48 mA	NSC ⁴ : 65 mA Peak: 250 mA Max. Avg: 75 mA IPM ⁵ : 45 mA	NSC ⁴ : 70 mA Peak: 250 mA Max. Avg: 80 mA IPM ⁵ : 55 mA
Device Input and Output	Input: Tri-color LED, Buzzer, Hold @ Active Low Output: Tamper Relay 0-60V DC @ 100mA Max (Dry Contact)			
Operating Temperature & Humidity	-31° F to +150° F (-35° C to +66° C) 0% to 95% non-condensing			
Storage Temperature	-40° F to +185° F (-40° C to +85° C)			
Environmental Rating	UL294 Outdoor and Indoor rated, IP65			
Transmit Frequency	125 kHz, 13.56 MHz, and 2.4 GHz			
Communications & Panel Connection	Wiegand and RS-485 Half Duplex (OSDP) via Pigtail (18 in / 0.5 m) or Terminal Strip			
Device Management	HID Reader Manager / OSDP configuration			
Certifications	UL294/cUL (US), FCC (US), IC (Canada), CE (EU), RCM (Australia, New Zealand), SRRC (China), KCC (Korea), NCC (Taiwan), iDA (Singapore), RoHS, MIC (Japan), GreenCircle, Bluetooth SIG, and additional regions. www.hidglobal.com/certifications			
Security Ratings	EAL 5+ Certified Secure Element Hardware			
Patents	www.hidglobal.com/patents			
Housing Materials	Polycarbonate - UL94 V0			
UL Reference Number	20	20K	40	40K
Warranty	Limited Lifetime			



hidglobal.com

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Europe, Middle East, Africa: +44 1440 714 850
Asia Pacific: +852 3160 9800
Latin America: +52 55 9171 1108

An ASSA ABLOY Group brand

¹ Read range listed is statistical mean rounded to nearest centimeter increment for ID-1 or clamshell credentials. HID Global testing occurs in open air. Form factor, technology and environmental conditions, including metallic mounting surface, can degrade read range performance; plastic spacers are recommended to improve performance on metallic mounting surfaces.

² Black trim baseplate & reader spacers available as an additional accessory at an additional cost.

³ Measured in accordance with UL294 standards; see Installation Guide for details.

⁴ NSC - Normal Standby Current; see Installation Guide for details.

⁵ Intelligent Power Management (IPM) - Reduces reader current consumption up to 43%, based on model, compared to standard operating mode.

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PLT-04831

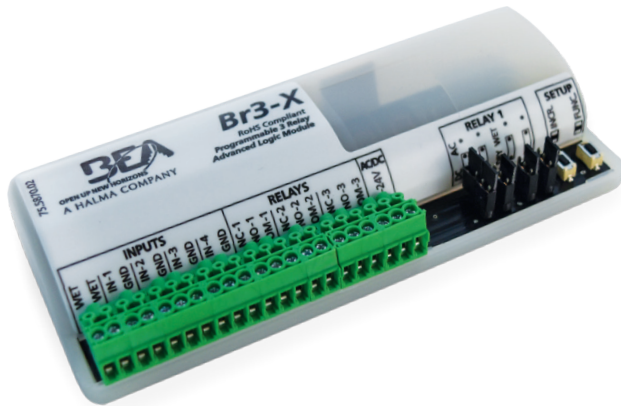


BR3-X

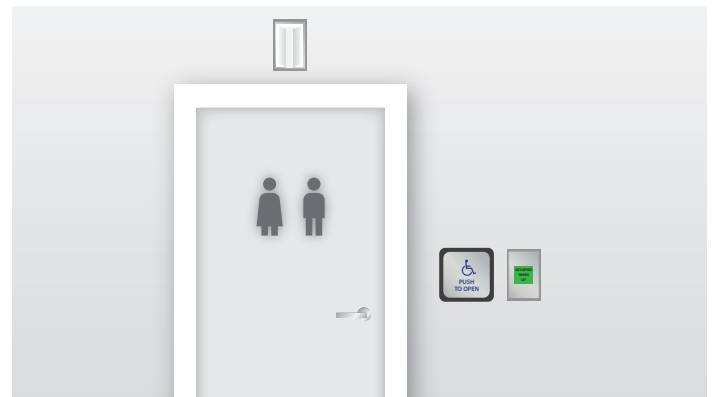
PROGRAMMABLE 3-RELAY LOGIC MODULE



PRIMARY APPLICATIONS



- 1 BR3-X Receives Input
- 2 BR3-X Relay 1 Releases Maglock
- 3 BR3-X Relay 2 Activates Door



DESCRIPTION

BEA's BR3-X provides both simple and advanced logic controls.

Functions include: timer, ratchet/latching, inhibitor, 2 relay sequencer + inhibitor, 2 relay sequencer + door position deactivation timer, 3 relay sequencer + "1-shot", 3 relay sequencer with "independent relay", interlock timer, interlock ratchet / latching, 2 way 2 relay sequence, normally locked restroom, normally unlocked restroom, 3 relay sequencer + "day / night mode".

Common uses for the Br3-X include automatic pedestrian doors, access control, industrial automation and single-occupancy restrooms.

FEATURES & BENEFITS

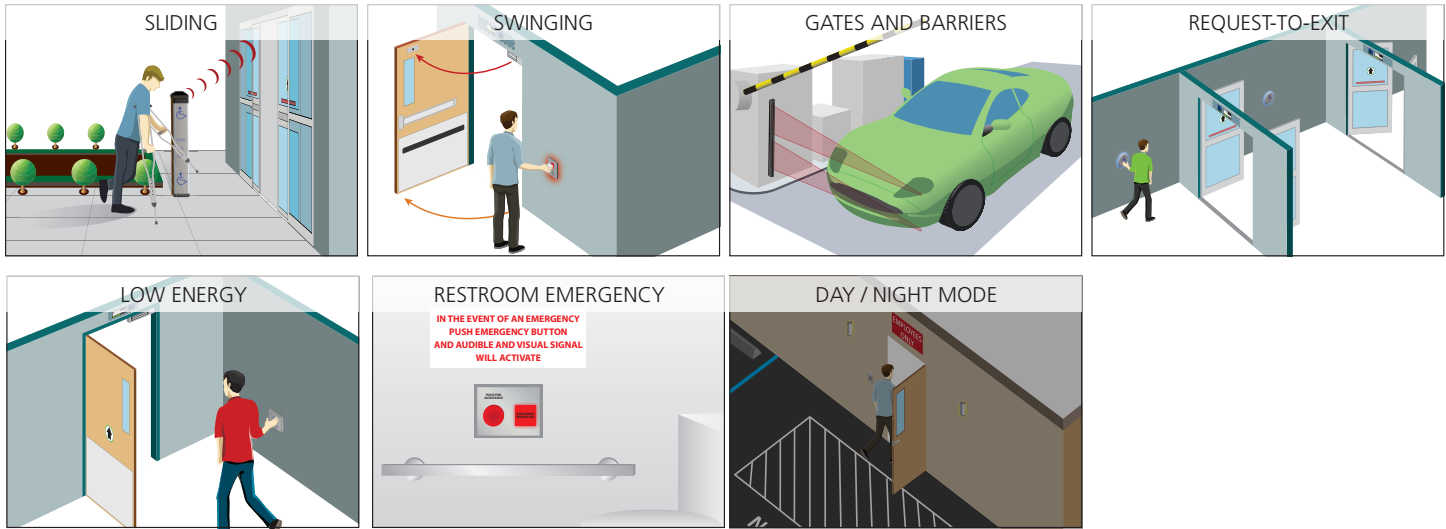
- Versatility with 13 programmable logic functions for the BR3-X
- Two-button programming combined with dual seven-segment display provides simple setup
- Two 3-AMP relays and one 1-AMP relay, all with built-in surge suppression, eliminates the need for external components when installing some electric locking devices
- WET output with AC / DC voltage for powering an electric locking device directly from the module



BEA, Inc.
RIDC Park West
100 Enterprise Drive
Pittsburgh, PA 15275-1213

Customer Service: 800.523.2462
Technical Support: 800.407.4545
www.BEAinc.com

APPLICATIONS



FUNCTION DETAILS

Br3-X FUNCTION	DESCRIPTION
10	Timer
11	Ratchet / Latching
22	2 Relay Sequence + Inhibitor
28	2 Relay Sequence + Door Position
29	Deactivation Timer
36	3-Relay Sequencer + '1-shot'
37	3-Relay Sequence with 'Independent Relay'
50	Interlock Timer
55	Interlock Ratchet / Latching
65	2-Way, 2 Relay Sequence
nL	Normally Locked Restroom
nU	Normally Unlocked Restroom
dn	3-Relay Sequencer + 'Day / Night mode'
00	Disable

TECHNICAL SPECIFICATIONS

Supply Voltage	12 – 24 VAC / VDC \pm 10%
Power Consumption	30 – 130 mA; DRY Output
Temperature Range	-15 °F – 150 °F* *If powered by AC voltage and using WET output to convert to DC voltage and current draw of device is greater than 0.9 A, the upper temperature range is 130 °F
Dimensions	5.2 in (W) \times 1.0 in (H) \times 2.2 in (D)
Relay Hold Time	Up to 60 seconds per relay
Delay Between Relays	Up to 60 seconds per relay with ¼, ½ and ¾ second options
Housing Material	ABS Plastic
Input Specification	Inputs 1, 2, 3, 4 WET Input
	DRY contact 5 – 24 VAC / VDC \pm 10%
Contact Rating	3 A @ 24 VAC / 30 VDC
Relay 1 (DRY)	1 A
Relay 1 (WET)	3 A @ 24 VAC / 30 VDC
Relay 2	1 A @ 24 VAC / 30 VDC
Relay 3	

RELATED PRODUCTS



10BR3X
3-RELAY LOGIC
MODULE



10RESTROOMKIT
RESTROOM
KIT



10EMERGENCYKIT
EMERGENCY
ADD-ON KIT



2N® IP FORCE

TOUGHEST IP INTERCOM IN THE WORLD

2N® IP Force is an extremely durable IP intercom that can withstand even the most demanding conditions. It provides for visitor communication monitoring and access control. Take advantage of its superior features for maximum site security.



- **Built for extreme conditions**
- **Professional night vision**
- **Clear sound in noisy environments**
- **Durable access control solution**
- **Wide-angle HD camera**
- **Easy integration into CCTV and VMS**

VARIANTS



1 button

With HD camera 01337-001
Without camera 01336-001



1 button,
keypad

01339-001
01338-001



4 buttons

01343-001
01342-001



2 buttons,
card reader ready

01340-001
01341-001



1 button, pictograms,
card reader ready

01334-001
01335-001

TECHNICAL PARAMETERS

Signalling protocol

SIP (UDP, TCP, TLS)

Button

Button design Transparent, white backlit buttons with easily replaceable label
Count of buttons 1, 2 or 4
Numerical keypad Optional

Audio

Microphone 2 integrated microphones
Amplifier 10 W (class D)
Speaker 10 W
Volume control Adjustable with automatic adaptive mode
Full duplex Yes (AEC)

Audio stream

Protocols RTP/RTSP
Codecs G.711, G.722, G.729, L 16/16kHz

Camera HD

Sensor 1/3" colour CMOS
JPEG resolution 1280 (H) x 960 (V)
Video resolution 640 (H) x 480 (V)
Frame rate Up to 30 snapshots/s
Sensor sensitivity 5.6 V/lux-sec (550 nm) / 1.9 V/lux-sec (550 nm)
View angle 135° (H), 109° (V)
Infrared light Yes

Video stream

Protocols RTP/RTSP/HTTP
Codecs H.263, H.263+, H.264, MPEG-4, M-JPEG
IP camera function Yes, ONVIF v2.4 profile S compatible

Interface

Power supply 12 V / 2A DC or PoE
PoE PoE 802.3af (Class 0 - 12,95 W)
LAN 10/100BASE-TX with Auto-MDIX, RJ-45
Recommended cabling Cat-5e or higher
Passive switch NO/NC contacts, max. 30 V/1A AC/DC
Active switch output 9 up to 13 V DC depending on power supply, max. 700 mA

RFID card reader

Supported frequencies 125kHz and 13.56MHz
125 kHz EM4100, EM4102, HID Proximity
13.56 MHz ISO14443A, ISO14443B, ISO15693, NFC support
reads UID (CSN)
reads PACs ID (iCLASS SIO-enabled cards)
- only secured cards

Mechanical properties

Mechanical properties Robust aluminium casting
Cover
Operating temperature -40°F to 131 °F
Storage temperature -40 °F to 158 °F
Operating relative humidity 10 % - 95 % (non-condensing)
Dimensions 8.543 x 4.291 x 3.268 inch
9.528 x 5.354 x 3.268 inch incl. frame
Weight Netto max. 4.409 lb / brutto max. 5.511 lb
Covering level IP69K and IK10

TS-18, TS-19, TS-20

Under Desk Door Release



The **TS-18**, TS-19, and TS-20 are push button controlled under desk/counter door releases for remote control of doors and access controls. Ideal for front desk and reception or hard to wire areas that require discreet control of locking devices.

Features

Standard Features

- **TS-18** with momentary action switch
- **TS-19** with one N/O and one N/C momentary action switch, can be used with either provided switch
- **TS-20** with alternate action switch ; can be used with either provided switch
- Black ABS plastic box with two mounting ears
- Surface mounted push button protected with 1" guard ring
 - Depressing push button operates switch contacts

Options

- **TS-18D** with DPDT switch
- **TS-20D** with DPDT switch

Specifications

Certifications & Listings

- UL 636 listed
- CSA certified components

Electrical

- SPDT contacts rated 10A at 35 VDC
- **TS-18, TS-20** Switch terminated with 12" leads

eXtreme™ Cat 6 UTP Patch Cord

APPLICATION

Leviton eXtreme Cat 6 patch cords are designed to be used in typical Cat 6 channel applications. Leviton eXtreme Cat 6 systems are designed for use in high-bandwidth applications such as Gigabit Ethernet.



SPECIFICATION

Patch cords shall meet or exceed requirements for Cat 6 performance described in ANSI/TIA-568.2-D. Patch cords shall be 24-gauge stranded conductor with an 8-position modular plug on each end. The cords shall be available in standard lengths of 3, 5, 7, 10, 15, and 20 feet. Patch cord plug shall be clear and contacts shall have industry-standard, ANSI/TIA-1096-A compliant 50 micro inches of gold plating.

WARRANTY INFORMATION

For a copy of Leviton product warranties, visit www.leviton.com/warranty.

FEATURES

- Stranded conductor for longer flex-life
- T568B wiring to function in either T568A or T568B applications
- Color-matched cords and boots
- Tested and verified to meet ANSI/TIA-568.2-D Cat 6 channel requirements

DESIGN CONSIDERATIONS

- ANSI/TIA channel performance limits the total length of work area and equipment room cords to 32 feet (10 meters) per ANSI/TIA-568.2-D or 88.6 feet (27 meters) in a MUTOA application
- A variety of colors for color coding and organizing
- Available in six standard lengths
- Color-matched rubber boot provides protection for plug

STANDARDS COMPLIANCE

- ANSI/TIA-568.2-D Cat 6
- ISO/IEC 11801-1 Class E
- ANSI/TIA-1096-A
- cULus Listed
- RoHS 2 Compliant
- UL 444 CM rated
- IEEE 802.3bt PoE Type 1 (15.4 Watts) formerly 802.3af, Type 2 (30 Watts) formerly 802.3at, Type 3 (60 Watts), Type 4 (90 Watts)
- Cisco UPoE (60 Watts), UPoE+ (90 Watts)
- Power over HDBaseT™ PoH (95 Watts)
- For 100 watt applications — Up to 100 cables in a bundle

PERFORMANCE SPECIFICATIONS

Dimensions	See page two
Outer Diameter:	0.225"
Materials:	24-gauge, UTP stranded conductor cable. Plug body is high-impact, fire-retardant plastic rated UL 94V-0
Color:	White, gray, black, blue, red, yellow, green (matching color boots)
Environmental Conditions:	Operating Temperature: -20 °C to +60 °C Installation Temperature: 0 °C to +50 °C

COUNTRY OF ORIGIN

China

Leviton Network Solutions

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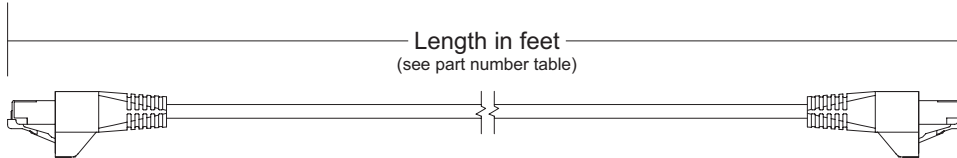
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ELECTRONIC FILES

For CAD files, typical specs, or technical drawings (.DXF, .DWG), visit www.leviton.com.



62460-xxx

EXTREME™ CAT 6 UTP PATCH CORDS – STOCKED ITEMS

Description	White	Yellow	Red	Blue	Green	Gray	Black
Cat 6 UTP Patch Cord, 3 feet (0.9 m)	62460-03W	62460-03Y	62460-03R	62460-03L	62460-03G	62460-03S	62460-03E
Cat 6 UTP Patch Cord, 5 feet (1.5 m)	62460-05W	62460-05Y	62460-05R	62460-05L	62460-05G	62460-05S	62460-05E
Cat 6 UTP Patch Cord, 7 feet (2.1 m)	62460-07W	62460-07Y	62460-07R	62460-07L	62460-07G	62460-07S	62460-07E
Cat 6 UTP Patch Cord, 10 feet (3.0 m)	62460-10W	62460-10Y	62460-10R	62460-10L	62460-10G	62460-10S	62460-10E
Cat 6 UTP Patch Cord, 15 feet (4.6 m)	62460-15W	62460-15Y	62460-15R	62460-15L	62460-15G	62460-15S	62460-15E
Cat 6 UTP Patch Cord, 20 feet (6.1 m)	62460-20W	62460-20Y	62460-20R	62460-20L	62460-20G	62460-20S	62460-20E

NOTE: Other lengths are available by special order. Please contact customer service for more information.



For assistance customizing your patch cords, please visit www.leviton.com/configurator or call Tech Support at 800.824.3005.



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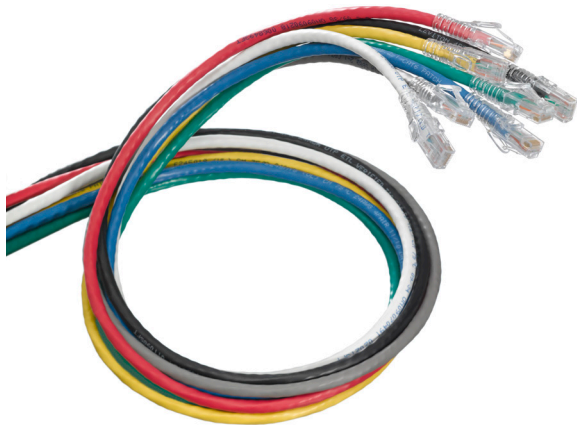
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eXtreme® Cat 6 SlimLine Boot UTP Patch Cords

APPLICATION

eXtreme Cat 6 SlimLine Boot UTP Patch Cords feature a narrow profile to support traditional and high-density panels and switches. The snagless plug design makes the patch cords an excellent choice in environments where moves, adds, and changes are frequent.



SPECIFICATION

Patch cords shall meet or exceed requirements for Cat 6 performance described in ANSI/TIA-568-C.2. Patch cords shall be 24-gauge stranded conductor with an 8-position modular plug on each end. The cords shall include a narrow-profile boot that allows for easy cord removal without snagging. The cords shall be available in standard lengths of 3, 5, 7, 10, 15, and 20 feet. Patch cord plug shall be clear and contacts shall have industry-standard, ANSI/TIA-1096-A compliant 50 micro inches of gold plating.

COUNTRY OF ORIGIN

China

WARRANTY INFORMATION

Limited Product and Limited Extended Warranties are rendered VOID if the installed structured cabling system is used for PoE applications that exceed the product's specified power rating.

For a copy of Leviton product warranties, visit www.leviton.com/warranty.

Page 1 of 2

FEATURES

- Tested and verified by Intertek (ETL) to meet ANSI/TIA-568-C.2 component standards
- Improved plug access in tight spaces
- Snagless plug design with integrated strain-relief boot
- Stranded conductor for longer flex-life
- T568B wiring to function in either T568A or T568B applications
- All patch cords are backwards compatible with earlier ANSI/TIA category ratings
- Channel performance verified by third-party testing in 4-connector, 100-meter channel

DESIGN CONSIDERATIONS

- ANSI/TIA channel performance limits total length of patching and equipment cords to 32 feet (10 meters) per ANSI/TIA-568-C.2 or 88.6 feet (27 meters) in a MUTOA application
- A variety of colors for color coding or organization
- Available in six standard lengths (custom lengths available)

STANDARDS COMPLIANCE

- ANSI/TIA-568-C.2
- IEEE 802.3at and IEEE 802.3af requirements
- ANSI/TIA-1096-A (formerly FCC Part 68)
- cULus Listed
- ISO/IEC 11801
- RoHS
- UL 444 CM Rated
- IEEE 802.3at (Type 1) PoE up to 15.4 watts
- IEEE 802.3at (Type 2) PoE+ up to 30 watts
- IEEE Draft 802.3bt (Type 3) PoE+ up to 60 watts
- IEEE Draft 802.3bt (Type 4) PoE+ up to 100 watts - maximum bundle size of 100 cords
- Cisco Universal Power Over Ethernet (UPOE) up to 60 watts
- Power over HDBaseT™ (POH) up to 100 watts - maximum bundle size of 100 cords

PHYSICAL SPECIFICATIONS

Dimensions:	See page two
Outer Diameter (O.D.):	0.225"
Materials:	24-gauge, UTP stranded conductor, modular non-keyed, 8-position, 8-conductor plug, 94V-0 rated
Colors:	White, yellow, red, blue, green, grey, black

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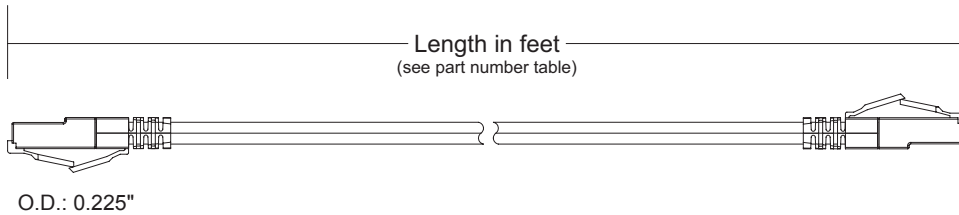
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ELECTRONIC FILES

For CAD files, typical specs, or technical drawings (.DXF, .DWG), visit www.leviton.com.



6D460-XXX

EXTREME® CAT 6 SLIMLINE BOOT UTP PATCH CORDS – STOCKED ITEMS

Description	White	Yellow	Red	Blue	Green	Grey	Black
Cat 6 SlimLine Boot UTP Patch Cord, 3 feet (0.9 m)	6D460-03W	6D460-03Y	6D460-03R	6D460-03L	6D460-03G	6D460-03S	6D460-03E
Cat 6 SlimLine Boot UTP Patch Cord, 5 feet (1.5 m)	6D460-05W	6D460-05Y	6D460-05R	6D460-05L	6D460-05G	6D460-05S	6D460-05E
Cat 6 SlimLine Boot UTP Patch Cord, 7 feet (2.1 m)	6D460-07W	6D460-07Y	6D460-07R	6D460-07L	6D460-07G	6D460-07S	6D460-07E
Cat 6 SlimLine Boot UTP Patch Cord, 10 feet (3.0 m)	6D460-10W	6D460-10Y	6D460-10R	6D460-10L	6D460-10G	6D460-10S	6D460-10E
Cat 6 SlimLine Boot UTP Patch Cord, 15 feet (4.6 m)	6D460-15W	6D460-15Y	6D460-15R	6D460-15L	6D460-15G	6D460-15S	6D460-15E
Cat 6 SlimLine Boot UTP Patch Cord, 20 feet (6.1 m)	6D460-20W	6D460-20Y	6D460-20R	6D460-20L	6D460-20G	6D460-20S	6D460-20E

NOTE: Other lengths are available by special order. Please contact customer service for more information.



For assistance customizing your patch cords, please visit www.leviton.com/configurator or call Tech Support at 800.824.3005.



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ednetics®

Intrusion Detection

Headquarters

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F 208.777.4708

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F 425.200.0201

Washington

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Kennewick, WA 99337
T 509.955.2200
F 509.955.2201

Oregon

13535 SW 72nd Ave. Ste. 140
Tigard, OR 97223
T 971.888.7801
F 971.888.7802

Idaho

3070 E Franklin Rd Ste. 301
Meridian, ID 83642
T 208.501.0030
F 208.501.0031

Trove2M2 Kit / TM2 Backplane Access & Power Integration Solution

Description

Altronix Trove™ enclosures and backplanes let you easily integrate Altronix power with Mercury access controllers and accessories. Trove simplifies board layout and wire management, reduces installation time and labor costs.

Trove2 Enclosure + TM2 Backplane Features

- Accommodates the following Mercury controllers with or without Altronix power/accessories:
 - Mercury: EP1502, MR52, MR16IN, MR16OUT, EP2500, MUX8, MR51e, EP1501, MR50, and Genetec Synergis Cloud Link
 - Altronix Power Supplies
 - Altronix Sub-Assemblies
- Includes Altronix Trove2 Enclosure and one (1) removable TM2 backplane

Agency Listings

UL:

UL294 - Access Control System.

cUL:

CAN/ULC - s319-05 - Electronic Access Control Systems.

CE

European Conformity.

Features

- Simplifies board layout and wire management
- Convenient knockout configuration:
 - Single 2" diameter knockout located top center of enclosure
 - Sixteen (16) double knockouts (1" and 0.75")
- Accommodates up to four (4) 12VDC/7AH batteries
- 16 AWG powder coated steel
- Includes cam lock, tamper switch and mounting hardware

Dimensions (H x W x D):

27.25" x 21.5" x 6.5" (692.15mm x 546.1mm x 165.1mm)

Weights:

Product - 37.1 lbs. (16.83 kg)

Shipping - 40.85 lbs. (18.53 kg)



Trove2M2

* Boards not included



TM2 Backplane Features

- Accommodates the following Mercury controllers with or without Altronix power/accessories:
 - Mercury: EP1502, MR52, MR16IN, MR16OUT, EP2500, MUX8, MR51e, EP1501, MR50, and Genetec Synergis Cloud Link
 - Altronix Power Supplies
 - Altronix Sub-Assemblies
- Backplane features:
 - Simplifies board layout and wire management
 - 16 AWG galvanized steel

Dimensions: 25.375"H x 19.375"W x 0.3125"D
(644.5mm x 492.1mm x 8mm)

Weights: Product - 8.0 lbs. (3.63 kg)
Shipping - 10.0 lbs. (4.53 kg)

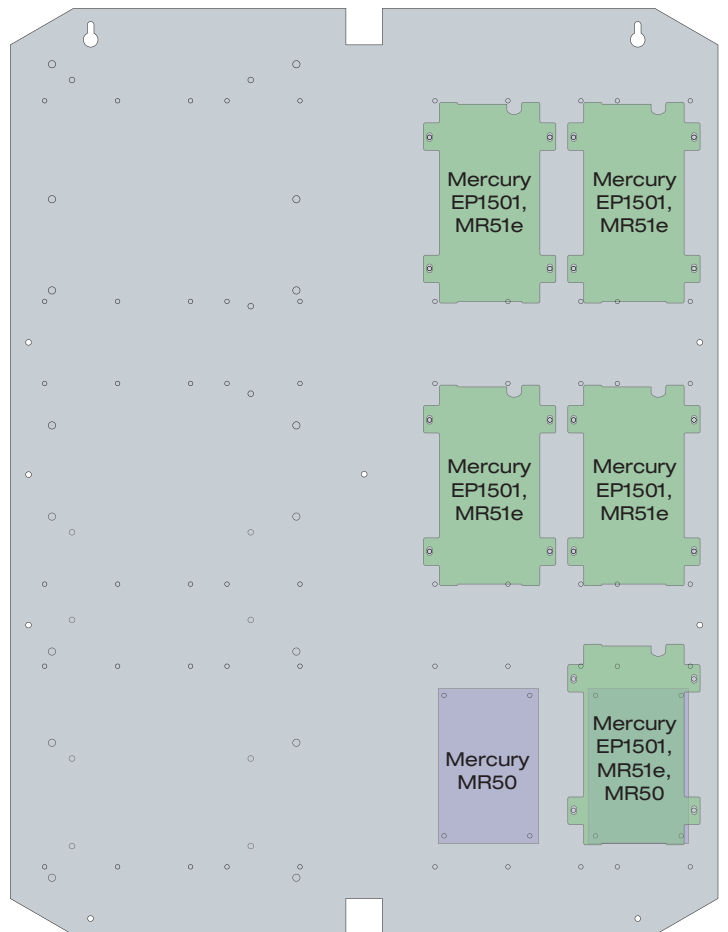
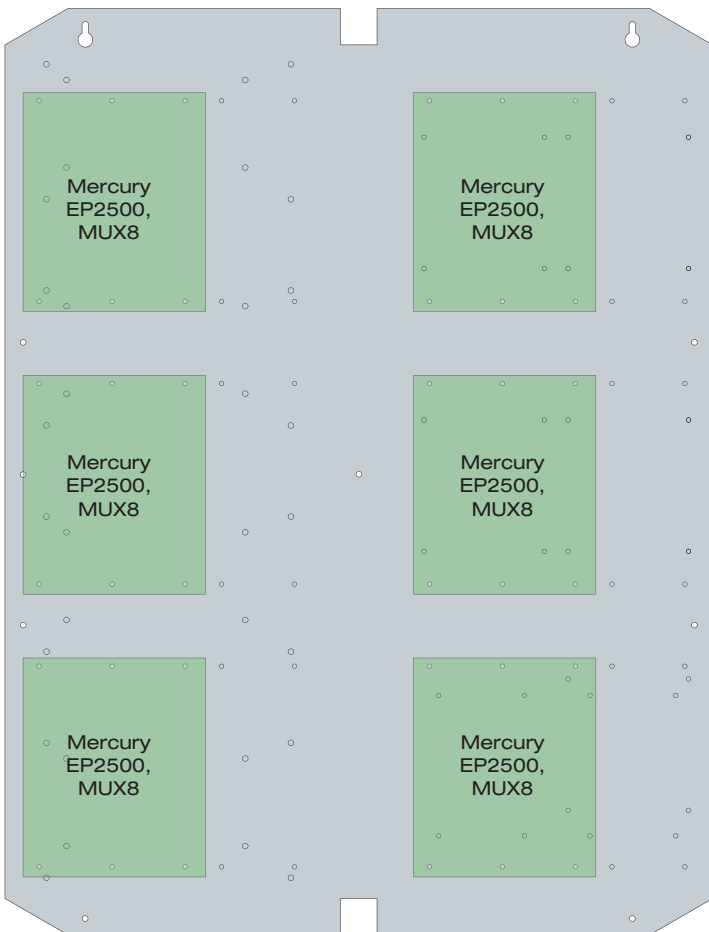
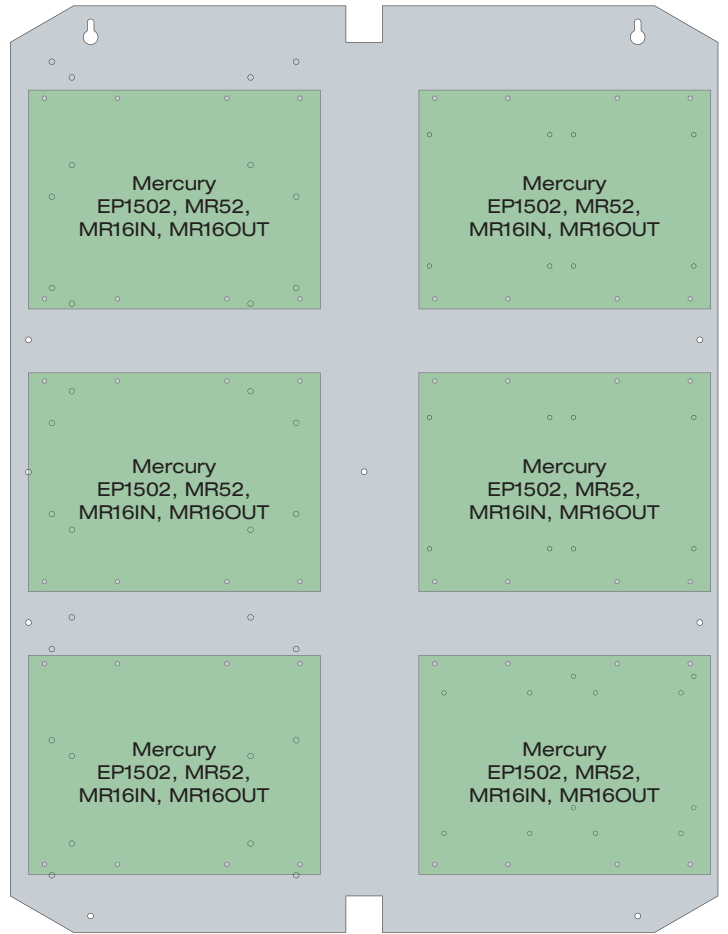
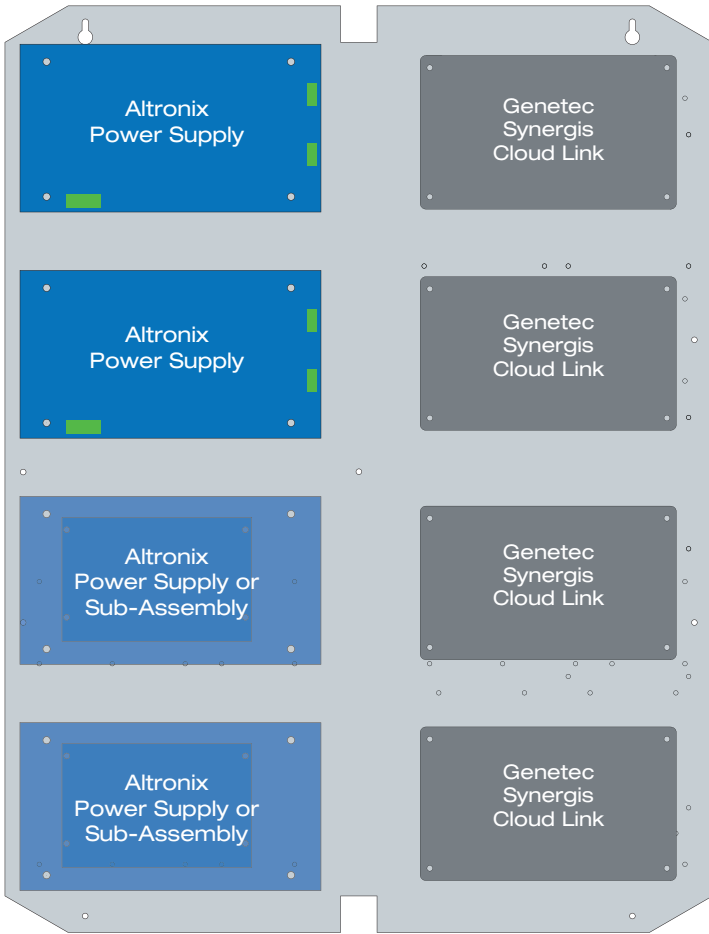
TMV2 Door Backplane Features

- Accommodates the following Mercury controllers:
 - Mercury: EP1502, MR52, MR16IN, MR16OUT, EP2500, MUX8, and Genetec Synergis Cloud Link
- Door Backplane features:
 - Simplifies board layout and wire management
 - 16 AWG galvanized steel

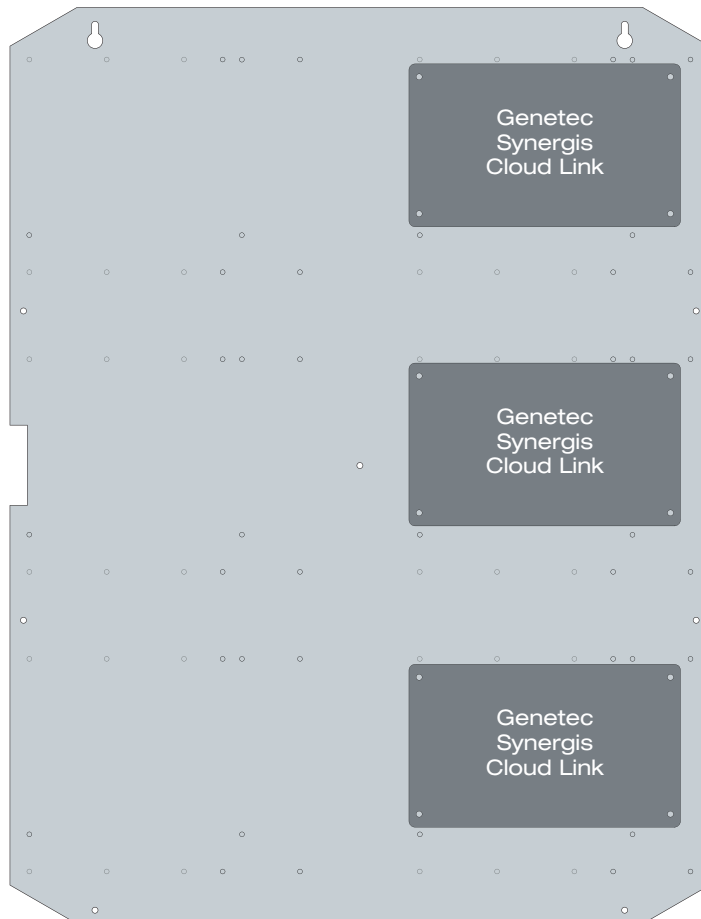
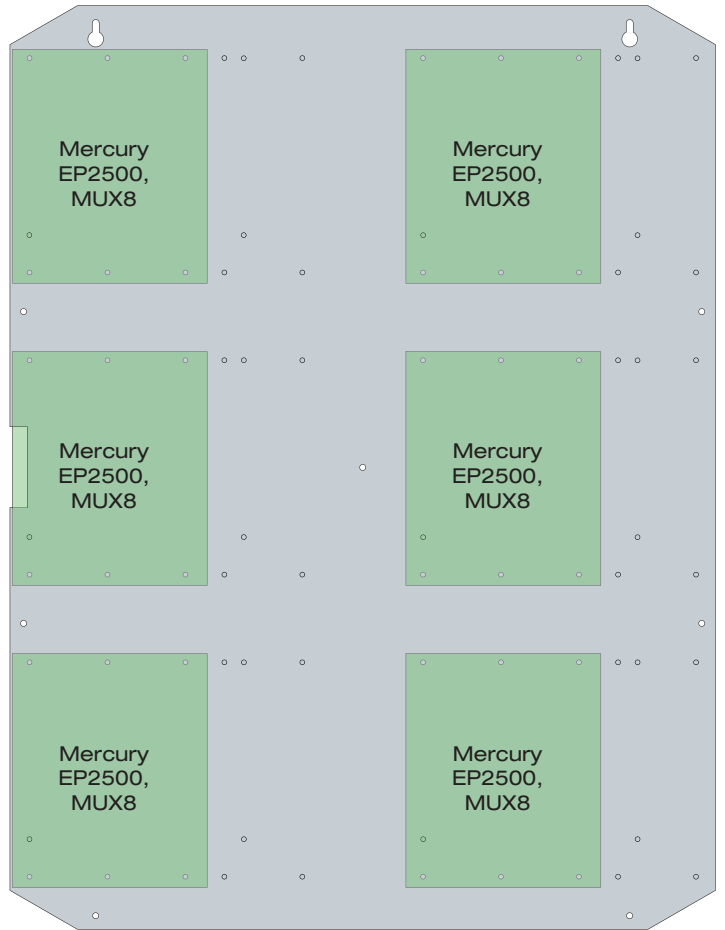
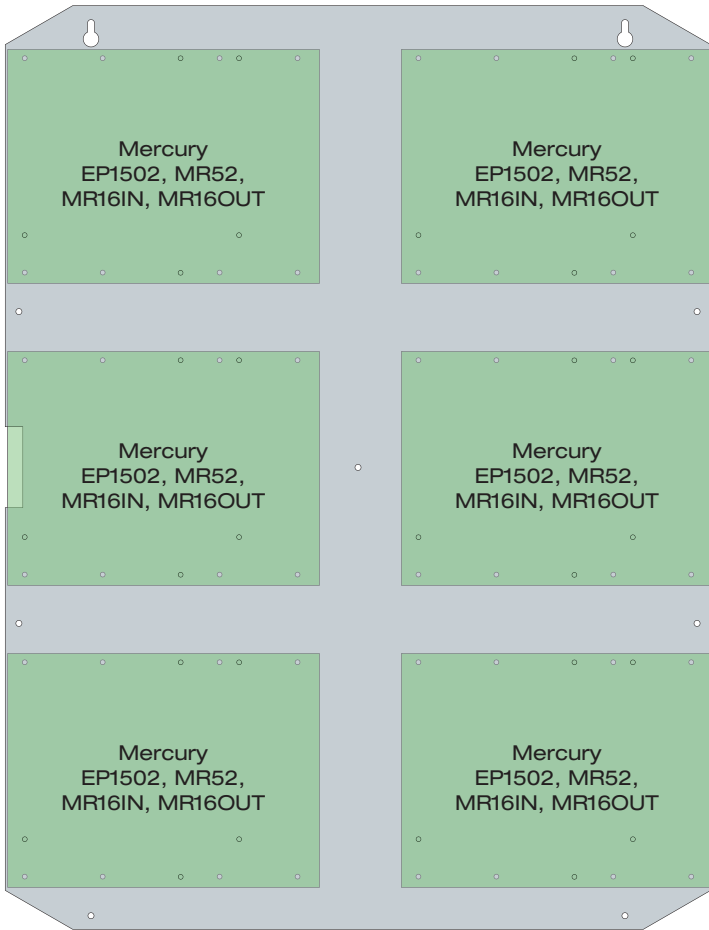
Dimensions: 23.75"H x 18.125"W x 0.3125"D
(603.25mm x 460.375mm x 7.94mm)

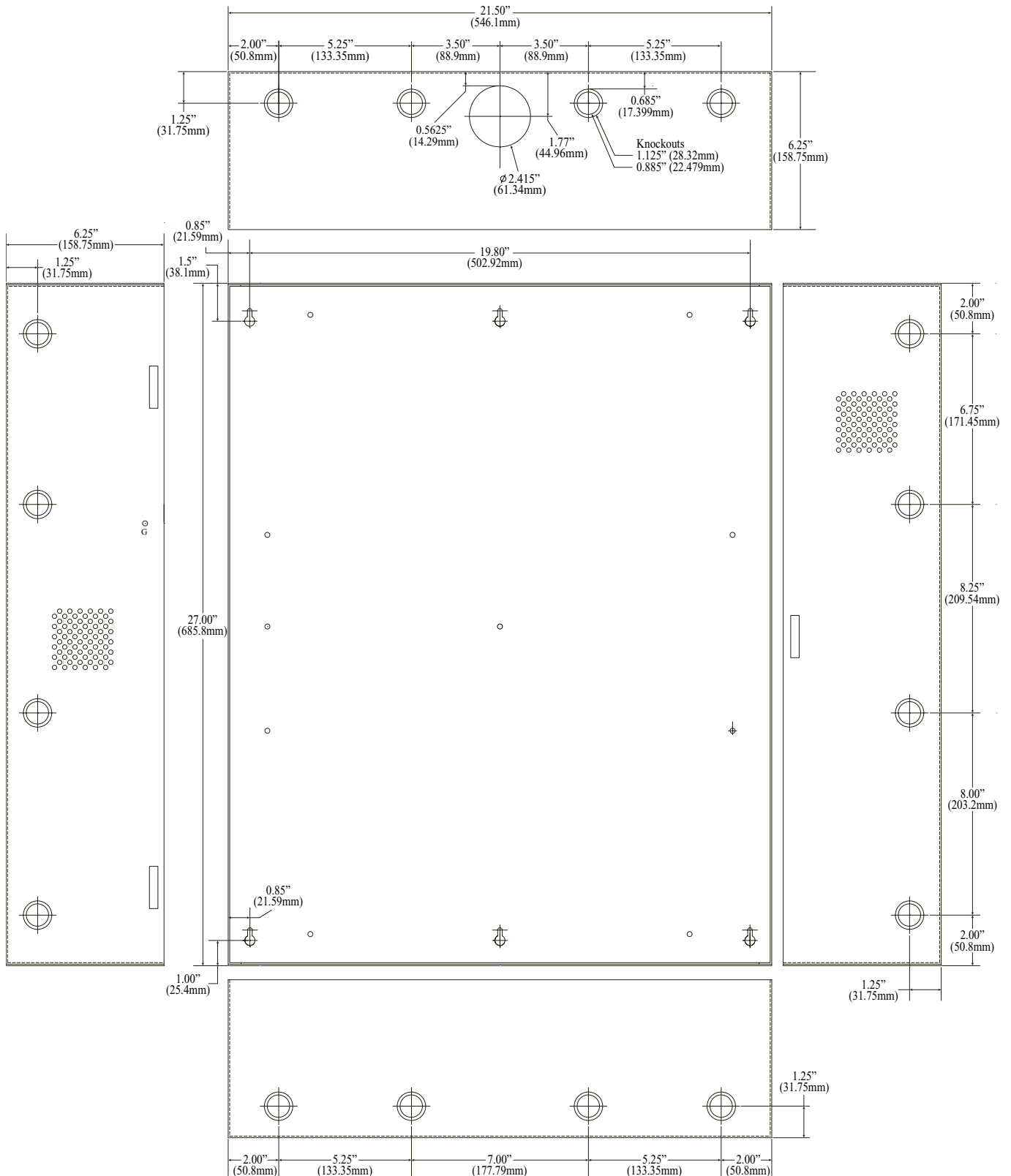
Weights: Product - 8.0 lbs. (3.63 kg)
Shipping - 9.0 lbs. (4.08 kg)

Trove2M2 Interior Backplane - Optional Mounting Configurations



TMV2 - Optional Door Backplane Configurations:



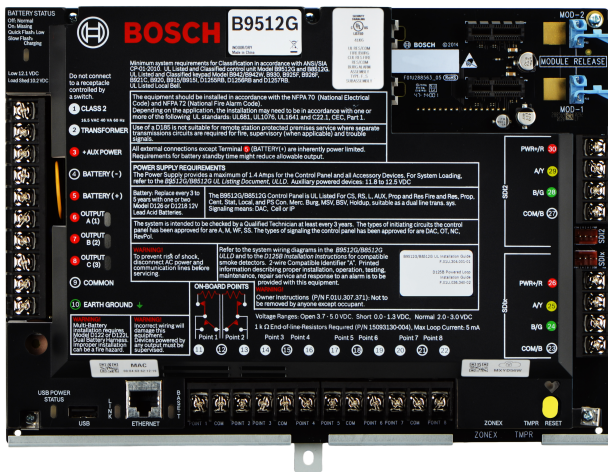


B9512G Control Panels

www.boschsecurity.com



BOSCH
Invented for life



- ▶ Fully integrated intrusion, fire, and access control allows users to interface with one system instead of three
- ▶ Provides up to 599 points using a combination of hardwired or wireless devices for installation flexibility, and up to 32 areas and 32 doors for up to 2,000 users
- ▶ On-board Ethernet port for Conetix IP alarm communication and remote programming, compatible with modern IP networks including IPv6/IPv4, Auto-IP, and Universal Plug and Play
- ▶ Installer-friendly features for simple installation and communications, including plug-in PSTN and cellular communication modules
- ▶ Remote Security Control app which allows users to control their security systems - and view system cameras - remotely from mobile devices such as phones and tablets

The B9512G Control Panel and the B8512G Control Panel are the new premier commercial control panels from Bosch. B9512G control panels integrate intrusion, fire, and access control providing one simple user interface for all systems.

With the ability to adapt to large and small applications, the B9512G provides up to 599 individually identified points that can be split into 32 areas.

The control panel can communicate through its built-in Ethernet port (not applicable to “E” control panels), or through compatible plug-in modules that can send events over the public switched telephone network (PSTN) or over cellular network communications.

For users, programmable keypad shortcuts, situation sensitive on-screen help, and a bilingual user interface make system operation simple and easy.

With the B9512G Control Panel, you can:

- Monitor alarm points for intruder, gas, or fire alarms.
- Program all system functions local or remote using Remote Programming Software (RPS) or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) or by using basic programming through the keypad.
- Add up to 32 doors of access control using the optional B901 Access Control Module. Optionally use the D9210C Access Control Interface Module for up to eight of the 32 doors.

The B9512G is a direct replacement for previous control panel models D9412GV4, D9412GV3, D9412GV2, and D9412G.

Functions

Programmable outputs

- Four alarm-output patterns
- Programmable bell test

Point response

- Selectable point response time
- Selectable EOL values and configuration
- Cross point capability
- Fire alarm verification
- Dangerous gas indicator includes carbon monoxide (NFPA 720)
- Watch mode
- 63 point profiles

User interface

- Supervision of up to 32 keypads
- Custom keypad text is fully programmable through RPS or the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China)
- Full function menu including customizable shortcuts
- Authority by area and 32 character name for each user
- 14 custom authority levels to restrict system features that each user can access
- Programmable primary and secondary language by user and keypad
- 9 available languages

User interface languages

The following table shows the available languages per keypad type.

	B915/ B915I	B920	B921C	B930	B942/ B942 W
English	✓	✓	✓	✓	✓
Chinese	✓				✓
French	✓	✓	✓	✓	✓
Greek	✓				✓
Hungarian	✓	✓	✓	✓	✓
Italian	✓	✓	✓	✓	✓
Polish	✓				✓
Portuguese	✓	✓	✓	✓	✓
Spanish	✓	✓	✓	✓	✓

Area configurations

Link multiple areas to a shared area such as a lobby or common entryway. The shared area then automatically turns On (arms) when all associate areas are armed and turns Off (disarms) when any one associate area is disarmed. For higher security applications, the Area Re-Arm feature guarantees that areas are always rearmed, and are disarmed for no longer than a specific, configurable, amount of time (for example, service time).

Custom functions

For added convenience, the installer can program custom functions that allow customers to complete complex tasks with one simple action. For example, a custom function can bypass a group of points and arm the system, allowing the user to perform these

functions with one easy command. Users can activate custom functions with a keypad, keyfob, token, or card, or the control panel can activate a function in reaction to a faulted point, or automatically through a scheduled event (SKED).

Passcode security

- Two-man rule. Requires two people with two unique passcodes to be present at the time of opening.
- Early ambush. Allows users to verify that the facility is safe by requiring two passcodes. The control panel sends a duress event if the user does not enter the passcode a second time after inspecting the premises.
- Dual authentication. Requires two forms of identification before processing certain system commands, including turning off the system and opening doors. A standard system user must have a passcode, a credential (token or card), and appropriate command authority permissions.

Door control

Using the B901 Access Control Module or D9210C Access Control Interface Module, the control panel provides a fully supervised access control solution. The solution offers 14 programmable levels of access authority. Authority for door access is controlled by the user level, the group of the user, the time of day, the door state, and the area armed (On/Off) state.

Easy exit control

The control panel changes from one On (armed) state to another without turning off (disarming) the system. For example, if you change the state from Part On (Perimeter Arm) to All On (Master Arm), the control panel complies and reports the change. Easy exit control reduces the number of keystrokes, simplifying system operation.

Programmable passcode-controlled menu list

Passcode-controlled shortcuts provide users only with the options and information pertinent to them, simplifying system operation.

Flexible control

The system provides the flexibility to choose added convenience or high security. For example, you can restrict to a keypad's immediate local area turning on (arming) and turning off (disarming) the system with a passcode, even if the user has access to other areas. This is particularly useful for high security areas, where a user may have access to the area, but would prefer to only turn off (disarm) the area individually rather than with the rest of the system.

Monitor Delay/Delayed Response

Create a special point profile that delays the reaction of a point for a specified time (up to 1 hour in minutes and seconds). This delay provides time for the specified condition to reset before activating any annunciation. The system can annunciate locally and send a report, if desired. When the system is armed, the point can respond like a normal point - providing

dual functionality. Use this feature to ensure that perimeter doors have not been propped open, or to monitor critical areas such as computer rooms and safes, for example.

System users

The system supports up to 2,000 users. Each user can have a personalized passcode, a wireless keyfob, and an access credential to control the system. You can assign passcodes to one of 14 customized authority levels in each area that can be restricted to operate only during certain times. You can program a primary and secondary language for each user and by keypad (select from English, Chinese, French, Greek, Hungarian, Italian, Polish, Portuguese, and Spanish). The keypad changes to the user's programmed language when the user enters his passcode or holds the Help key.

Communication formats

The control panel prioritizes and sends reports to four route groups. Network and phone communications can use either Modem4 or Contact ID communication format. Each group has a programmable primary and backup destination.

The control panel provides flexible communications for most central stations with reporting capabilities such as:

- Individual point numbers
- Opening or closing reports by user and area number
- Remote programming attempts
- Diagnostic reports

Notice

For premises equipment used in the communication path, such as routers, use only UL listed equipment.

IP communication

The control panel can use IP to communicate with a Conettix D6600 or a Conettix D6100IPv6 Communications Receiver/Gateway. Use one of the following for IP:

- The on-board Ethernet connection (not applicable to "E" control panels)
- Ethernet Communication Module: B426
- Plug-in cellular communicator: B442/B443/B444

Conettix IP communication provides a secure path that includes anti-replay/anti-substitution features, and enhanced security with up to AES 256-bit encryption (using Cipher Block Chaining (CBC)).

The control panel supports Domain Name System (DNS) for both remote programming and central station communication. DNS provides ease of use, eliminating the need to use static IP addresses as your reporting destination, and accommodates a simple solution for central station disaster recovery. The control panel supports both IPv6 and IPv4 networks.

Communication paths

The control panel accommodates up to four separate phone and four separate network paths to the central station receiver. When resetting alarms or turning a system on and off, the user is identified by name and number.

Personal notification

The control panel can send text messages and emails for personal notification over Ethernet or using a cellular communicator. You can configure up to 32 destinations using a combination of cellular phone numbers and email addresses. The control panel sends notifications in the user's programmed primary language.

Bosch Remote Connect (Cloud)

Remote Connect simplifies connections from RPS, and the Remote Security Control app, using Bosch Cloud services. This service creates a secure connection to the control panel without specific router settings or the need for a static IP address or DNS.



Notice

The Bosch Remote Connect service is not available in Europe, the Middle East, or Africa.

Firmware updates

Remote firmware updates are available.

A wide variety of input options

Each point:

- Single 1 k Ω , single 2 k Ω , dual 1 k Ω (1 k Ω + 1 k Ω), and No EOL (end-of-line) (EOL) resistor options (for on-board and B208 inputs)
- Programmable for Fire, Intrusion, Access, Gas, and Supervisory devices
- Supports hardwired and wireless devices
- Supports IP cameras by Bosch as point and output devices

IP camera support

The control panel can integrate directly with Bosch IP cameras, using them as fully supervised points and outputs.

Integration of cameras allows the camera's video motion detection to activate points on the control panel. The control panel's virtual outputs can be configured to trigger camera actions, including sending video snapshots via email.

Security and fire detection

The control panel provides eight on-board points, and up to 591 additional off-board points (depending on model and expansion interfaces). You can program individual points to monitor some types of burglar alarms, fire alarms, and supervision devices.

Event log

The event log stores up to 10192 local and reported events. The event log includes time, date, event, area, point, and user. View the event log from a keypad or use RPS or the Installer Services Portal programming

tool (available in Europe, Middle East, Africa, and China) to remotely retrieve event information. When the event log reaches a programmed threshold of stored events, it can send an optional report to a receiver.

Scheduled events (SKEDs)

The internal clock and calendar start individually scheduled events (SKEDs). SKEDs perform several functions such as turn on or off, relay control, or point bypassing.

The control panel offers:

- 80 scheduled events with up to 31 different functions
- 32 opening windows and 32 closing windows
- 32 user group windows
- Day-of-week, date-of-month, or holiday only schedules
- 8 holiday schedules of 366 days (leap year)

Dual bus and SDI keypad retrofits

The dual SDI2 device bus design provides greater installation flexibility, such as bus isolation for Intrusion and Fire. To use popular SDI keypads (for example D1255 and D1260), program one of the two SDI2 buses for SDI operation.

ZONEX and POPEX retrofits

To retrofit legacy Bosch control panels that use ZONEX and POPEX devices, the control panel is compatible with the B600 Retrofit (ZONEX) Module. The B600 adds two ZONEX buses to the control panel which can connect to existing legacy point bus (POPEX) devices (for example, the D8125).

Programming

Installers can perform limited programming on-site with a keypad (critical parameters; such as account IDs, central station and RPS IP addresses and phone numbers, reporting formats, and more). They can also do full programming on-site or remotely (attended or unattended) with RPS. A programmable system passcode prevents unauthorized remote programming. Full programming is also possible with the web-based Installer Services Portal programming tool. The Installer Services Portal programming tool is available for panel firmware version 3.06 or higher.

Notice

The Installer Services Portal programming tool is available in Europe, Middle East, Africa, and China.

The following table shows the available languages for RPS and Installer Services Portal programming tool.

	Installer Services Portal programming tool	RPS programming	RPS custom text*
English	✓	✓	✓
Chinese	✓		

	Installer Services Portal programming tool	RPS programming	RPS custom text*
French	✓		✓
Greek	✓		
Hungarian	✓		✓
Italian	✓		✓
Polish	✓		
Portuguese	✓		✓
Spanish	✓		✓

* RPS custom text is text, that can be entered in RPS and which will then be displayed on keypads and on the Remote Security Control app.

Diagnostics

Keypads, RPS and the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China) offer diagnostic help for monitoring and troubleshooting. The diagnostics features allow you to view the status of the wired and wireless devices. The features provide the status of the control panel and its connected devices, such as firmware version, power, and missing conditions. View the status of each area.

Remote Security Control app

The Remote Security Control app allows users to control their security systems remotely from their devices. Users can:

- Turn their security system On or Off
- Turn specific areas On or Off
- Control outputs for applications such as lighting control
- View live video from Bosch IP cameras
- Grant access remotely by unlocking and locking doors

The app requires the installing dealer to create a Remote Access Profile for users, and to install the profile on their devices.

Bosch Video Management System integration

With Bosch Video Management System (Bosch VMS) and an intrusion system, the VMS operator has a single user interface to monitor and control the intrusion system combined with video surveillance. With Bosch VMS and a control panel, the operator can, for example:

- View videos triggered by intrusion events, including all relevant information such as areas, point, and user show in the display with the event.
- View areas, points, outputs, and doors - with their statuses - on the Bosch VMS map, providing the exact location in the system.
- Turn on (arm) and turn off (disarm) areas.
- Bypass and unbypass points.
- Lock and unlock doors (Bosch VMS 6.0 and higher).

Requirements to integrate Bosch VMS with a control panel:

- A licensed Bosch VMS system using Professional Editions v5.5 or higher or Bosch VMS Enterprise Edition v5.5 or higher.
- Expansion license to integrate the intrusion control panel. One license needed per control panel. Order number MBX-XINT-xx for the expansion license added to a Bosch VMS base license. Refer to the Bosch Video Management Software product page on the Bosch website, www.boschsecurity.com.
- Access to the control panel account and Remote Programming Software (RPS) and the Installer Services Portal programming tool (available in Europe, Middle East, Africa, and China).

Certifications and approvals

Region	Regulatory compliance/quality marks	
USA	ANSI-SIA	CP-01-2010-Control Panel Standard - Features for False Alarm Reduction
Australia	RCM	[B9512G]
	RCM	[B8512G]
	RCM	ACMA
Europe	CE	EMC, LVD, RoHS [B9512G, B9512G-E, B8512G, B8512G-E]
USA	UL	[B9512G, B9512G-E, B8512G, B8512G-E, B299, B600, B901, B925F, B926F]
	UL	UL 294 - Standard for Access Control Units and Systems
	UL	UL 365 - Police Station Connected Burglar Alarm Units
	UL	UL 609 - Standard for Local Burglar Alarm Units and Systems
	UL	UL 636 - Holdup Alarm Units and Systems
	UL	UL 864 - Standard for Control Units and Accessories for Fire Alarm Systems
	UL	UL 985 - Household Fire Warning System Units
	UL	UL 1023 - Household Burglar Alarm System Units
	UL	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL	UL 1610 - Central Station Burglar Alarm Units
	UL	UL 1635 - Standard for Digital Alarm Communicator System Units
	FM	Central Station
	FM	Local Protective Signaling
	FM	Remote Station
	CSFM	California State Fire Marshal (see our website)

Region	Regulatory compliance/quality marks	
	FCC	Part 15 Class B
	FDNY-CoA	Fire Department of New York City [B9512G, B9512G-E, B8512G, B8512G-E]
Canada	ULC	[B9512G, B9512G-E, B8512G, B8512G-E, B299, B600, B901, B925F, B926F]
	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	CAN/ULC S545 - Residential Fire Warning System Control Units
	ULC	CAN/ULC S559 - Fire Signal Receiving Centres and Systems
	ULC	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	IC	ICES-003 - Information Technology Equipment (ITE)
Brazil	ANATEL	04450-16-01855 [B9512G, B8512G when used with B430 or B442]

Installation/configuration notes



Notice

Not all products and features are available in all regions. Consult your local Bosch representative for availability details.

Compatible products

Keypads

B942/B942W Touch Screen Keypad (SDI2)
 B930 ATM Style Alphanumeric Keypad (SDI2)
 B926F Fire Keypad (SDI2)
 B925F Fire Keypad (SDI2)
 B921C Two-line Capacitive Keypad (SDI2)
 B920 Two-line Alphanumeric Keypad (SDI2)
 B915/B915I Basic Keypad (SDI2)
 D1255 Series Keypads
 D1260 Series Keypads
 D1256RB Fire Keypad
 D1257RB Remote Fire Alarm Annunciator

Power

D1640 16.5 VAC 40 VA Transformer

DE-45-18 Transformer
 D126 Standby Battery (12 V, 7 Ah)
 D1218 Battery (12 V, 18 Ah)
 D122 Dual Battery Harness
 D122L Dual Battery Harness with Long Leads

Enclosures

B8103 Universal Enclosure (White)
 D8103 Universal Enclosure (Gray)
 D8108A Attack Resistant Enclosure
 D8108A-CE Attack Resistant Enclosure with Built-in Transformer
 D8109 Fire Enclosure

Accessories

B56 Keypad Surface Mount Box
 B96 Keypad Trim Bezel
 B99 USB Direct Connect Cable
 B501-10 Interconnect wiring cables (pack of 10)
 D161 Dual Modular Telephone Cord (7 f)
 D162 Modular Telephone Cord (2 ft)
 D166 Telephone Jack (RJ31X)

Detectors

D7050 Series Addressable Photoelectric Smoke and Smoke Heat Detector Heads
 F220-B6PM/S 12/24 VDC Addressable Detector Bases with POPITs
 F220-B6 12/24 VDC Two-wire Base
 F220-B6R Standard 12/24 VDC Four-wire Base)
 F220-P Photoelectric Smoke Detector
 F220-PTH Photoelectric Smoke Detector with +135°F (+57°C) Heat Sensor
 F220-PTH Photoelectric Smoke Detector with +135°F (+57°C) Heat Sensor and Carbon Monoxide Sensors
 F220-B6C 12/24 VDC Four-wire Base with Auxiliary Form C Relay
 FCC-380 Carbon Monoxide Detector
 FCH-T320 Heat Detector
 FCP-OT320 Multisensor Detector Optical/Thermal
 FCP-O320 Optical Smoke Detector
 MX775i Addressable PIR Detector
 MX794i Long Range Multiplex PIR Detector
 MX934i Addressable PIR Detector

MX938i Addressable PIR Detector
 ZX776Z PIR Detector
 ZX794Z Long Range PIR Detector
 ZX835 TriTech Microwave/PIR Detector
 ZX935Z PIR Detector
 ZX938Z PIR Detector
 ZX970 PIR/Microwave Detector

Bosch conventional detectors, including Professional Series, Blue Line Gen2, Blue Line, Classic Line, Commercial Line, and Ceiling Mount motion detectors, as well as glass break, seismic, request-to-exit, photoelectric, heat, and smoke detectors.

Modules

B208 Octo-input Module
 B299 POPEX Module
 B308 Octo-output Module
 B426 Conettix Ethernet Communication Module
 B430 Plug-in Telephone Communicator
 B442 Conettix Plug-in Cellular Communicator (using GPRS)
 B443 Conettix Plug-in Cellular Communicator (using HSPA+)
 B444 Conettix Plug-in Cellular Communicator
 B450 Conettix Plug-in Communicator Interface
 B520 Auxiliary Power Supply Module
 B600 Retrofit (ZONEX) Module
 B810 wireless receiver (RADION)
 B820 SDI2 Inovonics Interface Module
 B901 Access Control Module
 D113 Battery Lead Supervision Module
 D125B Dual Class B Initiating Module
 D126 Standby Battery (12 V, 7 Ah)
 D129 Class A Initiating Module
 D130 Auxiliary Relay Module
 D132A Smoke Detector Reversing Relay Module
 D133 Single Relay Module
 D134 Dual Relay Module
 D185 Reverse Polarity Signaling Module
 D192G Class "B", Style Y Bell Circuit Supervision
 D1218 Battery (12 V, 18 Ah)
 D8125 Addressable Expansion Module
 D8125MUX Multiplex Bus Interface

D8128D OctoPOPIT Eight-point Expander
 D8129 Octo-relay Module
 D8130 Door Release Module
 D9127U/T POPIT Module
 DS7461i Single-zone Input Module
 DS7465i Input-output Module
 D9210C Access Control Interface Module
 ICP-EZTS Cover and Wall Tamper Switch
 ICP-SDI-9114 SDI Splitter

Applications

Remote Programming Software (RPS or RPS-LITE) v6.03 and higher
 Installer Services Portal programming tool
 Bosch Video Management System v5.5 and higher
 Remote Security Control

Conettix receivers

(Managed and configured with Conettix D6200 Programming/Administration Software v2.10)

Conettix D6600 Communications Receiver/Gateway (with only D6641 line cards installed) with CPU version 01.10.00

Conettix D6100IPv6 Communications Receiver/Gateway with CPU version 61.10.00

Conettix D6100i Communications Receiver/Gateway with CPU version 61.10.00

RADION wireless from Bosch

B810 wireless receiver (RADION)
 RFBT-A/RFBT bill trap
 RFDL-11-A/RFDL-11 TriTech motion detector
 RFDW-RM-A/RFDW-RM recessed mount door/window contact
 RFDW-SM-A/RFDW-SM surface mount door/window contact
 RFGB-A/RFGB glass break detector
 RFKF-A/RFKF two-button keyfob
 RFKF-FBS-A/RFKF-FBS four-button keyfob
 RFKF-TBS-A/RFKF-TBS two-button keyfob
 RFPB-SB-A/RFPB-SB single-button panic
 RFPB-TB-A/RFPB-TB two-button panic
 RFRP-A/RFRP repeater
 RFSM-A/RFSM smoke detector
 RFPR-12-A/RFPR-12 PIR motion detector

RFPR-C12-A/RFPR-C12 PIR curtain motion detector
 RFUN-A/RFUN universal transmitter

Inovonics Wireless

B820 SDI2 Inovonics Interface Module
 ENKIT-SDI2 SDI2 Inovonics Interface and Receiver Kit. Includes B820 and EN4200
 EN1210 Universal Transmitter (Single-input)
 EN1210EOL Universal Transmitter with EOL Resistor
 EN1210W Door-Window Transmitter with Reed Switch
 EN1215EOL Universal Transmitter with Wall Tamper, Reed Switch, and EOL Resistor
 EN1223D Water-resistant Pendant Transmitter (Double-button)
 EN1223S Water-resistant Pendant Transmitter (Single-button)
 EN1224-ON Multiple-Condition Pendant Transmitter
 EN1233D Necklace Pendant Transmitter (Double-button)
 EN1233S Necklace Pendant Transmitter (Single-button)
 EN1235D Beltclip Pendant Transmitter (Double-button)
 EN1235DF Fixed-location Transmitter (Double-button)
 EN1235S Beltclip Pendant Transmitter (Single-button)
 EN1235SF Fixed-location Transmitter (Single-button)
 EN1247 Glass-break Detector Transmitter
 EN1249 Bill Trap Transmitter
 EN1242 Smoke Detector Transmitter
 EN1260 Wall Mount Motion Detector
 EN1261HT High Traffic Motion Detector
 EN1262 Motion Detector with Pet Immunity
 EN1265 360° Ceiling Mount Motion Detector
 EN4200 Serial Receiver
 EN5040-T High Power Repeater with Transformer

Technical specifications

Properties

Dimensions	10.625 in x 7.75 in x 1.875 in (26.99 x 19.69 x 4.76 cm)
Weight	1.95 lbs (0.88 kg)

Communications

Ethernet	10/100 full duplex (N/A for "E" control panels)
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Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F)
Temperature (operating)	0°C to +49°C (+32°F to +120°F)

Power requirements

Current (maximum)	Standby: 180 mA Alarm: 260 mA
Output (alarm)	2 A at 12 VDC
Output (auxiliary, continuous power, and switched auxiliary combined)	1.4 A at 12 VDC nominal
Voltage (operating)	12 VDC nominal
Voltage (AC)	16.5 - 18 VAC

Wiring

Terminal wire size	12 AWG to 22 AWG (2.0 mm to 0.65 mm)
SDI2 wiring	Maximum distance – Wire size (unshielded wire only): 7,500 ft (2,286 m) - 22 AWG (0.65 mm)

Number of...

Areas	32
Custom functions	32
Keypads	32 keypads, including 16 SDI keypads
Events	Up to 10,192
Passcode users	2000, plus 1 installer passcode
Points	599 (8 on-board, up to 591 off-board and virtual)
Programmable outputs	599 (3 on-board, up to 596 off-board and virtual)
RF points	504
IP cameras	16
SKEDs	80

Ordering information**B9512G IP control panel, 32 areas, 599 points**

Supports up to 599 points, 3 on-board outputs, and 32 areas for intrusion, commercial fire. On-board Ethernet.

Order number **B9512G**

B9512G-E Control panel 32 areas 599 points, no IP

The B9512G-E is available only in kits.

Order number **B9512G-E**

B901 Door Controller

Fully supervised, addressable SDI2/SDI bus device that allows access control integration for Bosch G and B Series Control Panels.

Order number **B901**

D1640-CA 16VAC 40VA xfmr Canada

For use in Canada. System transformer rated at 16.5 VAC, 40 VA.

Order number **D1640-CA**

Accessories**B520 Auxiliary power supply module, 2A 12V**

Provides auxiliary power to 12 VDC devices or to SDI2 modules.

Order number **B520**

B208 SDI2 8-Input Expansion Module

Provides 8 programmable inputs.

Order number **B208**

B308 SDI2 8-Output Expansion Module

Provides 8 programmable relays.

Order number **B308**

B810 Wireless SDI2 bus interface

Receives RF signals from RADION transmitters, repeaters, and glassbreaks. Operates at 433.42 MHz. For use with compatible SDI2 bus control panels.

Order number **B810**

D122 Dual battery harness, 17" 18AWG

Harness with circuit breaker. Connects two batteries (in parallel) to a compatible control panel.

Order number **D122**

D122L Dual battery harness, 35", 12V

Harness with circuit breaker and leads measuring 35 in. (89 cm). Connects two batteries (in parallel) to a compatible control panel in a separate enclosure.

Order number **D122L**

D126 Battery, 12V 7Ah

A rechargeable sealed lead-acid power supply used as a secondary power supply or in auxiliary or ancillary functions.

Order number **D126**

D1218 Battery, 12V 18Ah

The D1218 is a 12 V 18 Ah sealed lead-acid battery with two bolt-fastened terminals. It is used for standby and auxiliary power. It connects to a compatible control panel using a D122 or D122L Dual battery harness.

Order number **D1218**

D1238 BATTERY, 12V 38 AH

A 12 V sealed lead-acid battery for standby and auxiliary power with two bolt-fastened terminals. Includes hardware for attaching battery leads or spade connectors.

Order number **D1238**

D137 Accessory mounting bracket for enclosure

Used to mount accessory modules in B8103, D8108A, and D8109 enclosures.

Order number **D137**

D1640 Transformer plug-in, 16V 40VA

System transformer rated at 16.5 VAC, 40 VA.

Order number **D1640**

D9002-5 Mounting plate, 6 location 3-hole, 5 pcs

5 pack of mounting skirts for B8103, D8103, D8108A, and D8109 enclosures. Each skirt can hold up to six standard 3-hole mounting modules.

Order number **D9002-5**

D101 Enclosure lock and key set

Short-body lock set with one key supplied. Uses the D102 (#1358) replacement key.

Order number **D101**

D110 TAMPER SWITCH 2/PKG

Screw-on tamper switch that fits all enclosures. Shipped in packages of two.

Order number **D110**

ICP-EZTS TAMPER SWITCH-DUAL

Combination tamper switch with a wire loop for additional tamper outputs.

Order number **ICP-EZTS**

B8103 Universal enclosure, white

White steel enclosure measuring 41 cm x 41 cm x 9 cm (16 in. x 16 in. x 3.5 in.).

Order number **B8103**

D8108A Attack resistant enclosure, large, grey

Grey steel enclosure measuring 41.5 cm x 41.5 cm x 9 cm (16 in. x 16 in. x 3.5 in.).

UL Listed. Includes a lock and key set.

Order number **D8108A**

D8109 Fire enclosure, 16x16x3.5", red

Red enclosure measuring 16 in. x 16 in. x 3.5 in. (41 cm x 41 cm x 9 cm). Made from 16 gauge (1.5 mm) cold-rolled steel with a full-length hinge. Includes a lock and key set. UL Listed for commercial fire/burglary alarm applications.

Order number **D8109**

D8004 Transformer enclosure kit, grey

For applications that might require a remote transformer in an enclosure. Can be used with B Series control panels and D9412GV4/D7412GV4 control panels.

Order number **D8004**

BATB-40 Battery box/enclosure, 22x20.75x7.25"

22 x 20.75 x 7.25" (56 x 53 x 18.5 cm). Holds two dry or wet cell batteries. Optional BATB-SHELF battery shelf increases number of batteries. Suitable for residential/commercial fire or burglary applications.

Order number **BATB-40**

BATB-80 Battery box/enclosure, 14x20.75x7.25"

14 x 20.75 x 7.25" (36 x 53 x 18.5 cm). Battery box/enclosure with shelf holds up to four dry or wet cell batteries. Suitable for residential/commercial fire or burglary applications.

Order number **BATB-80**

B99 USB direct connect cable

Male A to Male A USB cable for local programming of control panels with on-board USB ports.

Order number **B99**

B915 Basic Keypad

Two-line alphanumeric basic keypad with language function keys.

Available languages: English, Chinese, French, Greek, Italian, Hungarian, Polish, Portuguese, Spanish.

Order number **B915**

B915I LCD keypad, icon keys, SDI2

Two-line alphanumeric basic keypad with icon function keys.

Available languages: English, Chinese, French, Greek, Italian, Hungarian, Polish, Portuguese, Spanish.

Order number **B915I**

B920 2 Line Alpha Numeric Keypad (SDI2)

Two-line alphanumeric keypad

Available languages: English, French, Hungarian, Italian, Portuguese, Spanish.

Order number **B920**

B921C Two-line Keypad w/Touch keys, Inputs

Two-line alphanumeric keypad with inputs and capacitive touch keys in black.

Available languages: English, French, Hungarian, Italian, Portuguese, Spanish.

Order number **B921C**

B930 ATM Style-Alpha Numeric Keypad (SDI2)

Five-line ATM style alphanumeric keypad

Available languages: English, French, Hungarian, Italian, Portuguese, Spanish.

Order number **B930**

B942 Touch Screen KP Prox/Input/Output, black

Black SDI2 touch screen keypad with inputs and one output.

Available languages: English, Chinese, French, Greek, Italian, Hungarian, Polish, Portuguese, Spanish.

Order number **B942**

B942W Touch screen KP, prox/input/output,white

White SDI2 touch screen keypad with inputs and one output.

Available languages: English, Chinese, French, Greek, Italian, Hungarian, Polish, Portuguese, Spanish.

Order number **B942W**

B925F Fire and intrusion keypad, SDI2

Two-line alphanumeric fire and intrusion keypad.

Order number **B925F**

B926F Fire keypad, SDI2

Two-line alphanumeric fire keypad

Order number **B926F**

Software Options

D5500C-USB Kit with DVD and USB security dongle

Remote Programming Software (RPS) with USB security key (dongle).

Order number **D5500C-USB**

Represented by:

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
emea.securitysystems@bosch.com
emea.boschsecurity.com

Germany:
Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
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www.boschsecurity.com

North America:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
onlinehelp@us.bosch.com
www.boschsecurity.us

Asia-Pacific:
Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
apr.securitysystems@bosch.com
www.boschsecurity.asia

TR1850 Transformer

www.boschsecurity.com



BOSCH

Invented for life



Ordering information

TR1850 Transformer

For use in North America. Plug-in transformer with input: 120 VAC, 60 Hz, 0.50 A; output 18 VAC, 50 VA output.

Order number **TR1850**

Accessories

D8004 Transformer Enclosure

For applications such as fire alarm that might require a transformer enclosure.

Order number **D8004**



SDI-2 MOLEX CABLE 10 PACK

Bosch

Model #: B501-10

[Overview](#)

[Specifications](#)

Marketing Information

Sdi-2 Molex Cable 10 Pack

Information

- Name: Internal Power Cord, Bosch
SDI-2 MOLEX CABLE 10 PACK, Bosch
- Category: Other Power Supplies, Power
- UPC Code: 800549691871

Note: All product information is subject to change without notice.



SDI-2 MOLEX CABLE 10 PACK

Bosch
Model #: B501-10

[Overview](#)

[Specifications](#)

General Information

UPC 800549691871
Weight 0.18 lbs

Note: All product information is subject to change without notice.

D122 Dual Battery Harness

www.boschsecurity.com



BOSCH
Invented for life



The D122 Dual Battery Harness protects the installer and the battery when connecting two batteries, in parallel, to compatible control panels. The D122 eliminates the hazards of batteries connected in parallel by utilizing a thermal circuit breaker to govern the circuit. The positive side of the harness is in series with the circuit breaker. It breaks the electrical circuit of the second battery when the thermal rating is exceeded. This prevents the battery circuit from creating a potentially harmful current overload condition.

Certifications and approvals

Region	Certification	
USA	UL	AOTX: Local Alarm Units (ANSI/UL 609 and ANSI/UL 464) and APAW: Police-station-connected Alarm Units (ANSI/UL 365 and ANSI/UL 464)
	CSFM	see our website

Parts included

Quantity	Component
1	Cable
4	Locknuts

Quantity	Component
4	Screws
4	Battery contacts
2	Adapters
1	Literature – Installation instructions

Technical specifications

Mechanical

Cable length	17 in. (432 mm)
Wire gauge	18 AWG (ISO 0.75 mm ²)

Ordering information

D122 Dual Battery Harness

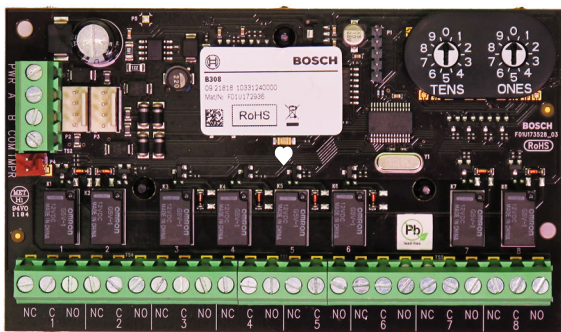
Harness with circuit breaker. Connects two batteries to a compatible control panel.
Order number **D122**

B308 Octo-output Module

www.boschsecurity.com



BOSCH
Invented for life



- ▶ Programmable output functions
- ▶ Easy to read switch addressing
- ▶ Provides eight Form C relays
- ▶ 1 A at 5-24 VDC relay contact rating
- ▶ Allows remote control of outputs

The B308 Octo-output Module is suitable for applications requiring Form C outputs to operate auxiliary systems or to display fire system status at remote annunciators. The B308 can interface with building components such as HVAC, door lock releases, and stairwell pressurization for complete system control and monitoring.

Industrial, commercial, and institutional facilities are typical installations for the B308 module. The eight on-board outputs can be programmed to activate on system alarm, system trouble, individual zone or point faults, and through remote control by authorized users.

System overview

The B308 Octo-output Module provides eight programmable outputs. Each relay provides dry contact switching rated for 1.0 A at 5-24 VDC. The outputs are accessed through on-board screw terminal connections.

The B308 is compatible with the SDI2 bus. The on-board switches are used to specify module addresses. Control panel programming will determine output response to specific events.

The B308 receives serial data from the control panel and activates outputs in response to control panel conditions and settings. Outputs can be programmed for remote control from a keypad.

Functions

Output Relays

Each output provides a normally-open and a normally-closed output. Outputs can be configured in control panel programming to indicate system events.

Certifications and approvals

Region	Certification	
Australia	RCM	ACMA
Europe	CE	EMC, RoHS
USA	UL	
	UL	UL 365 - Police Station Connected Burglar Alarm Units
	UL	UL 609 - Standard for Local Burglar Alarm Units and Systems
	UL	UL 864 - Standard for Control Units and Accessories for Fire Alarm Systems
	UL	UL 985 - Household Fire Warning System Units
	UL	UL 1023 - Household Burglar Alarm System Units
	UL	UL 1076 - Proprietary Burglar Alarm Units and Systems

Region	Certification	
	UL	UL 1610 - Central Station Burglar Alarm Units
	CSFM	see our website
	FCC	Part 15 Class B
	FDNY-CoA	6174
	FDNY-CoA	6196
Canada	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	IC	ICES-003 - Information Technology Equipment (ITE)

Installation/configuration notes

Mounting considerations

Mount the B308 Octo-input module onto a variety of control panel enclosures with the compatible control panel or D203 remote enclosure. Remote mounting, at longer distances is a benefit of the new SDI2 bus. Up to four B308 Octo-output Modules can be mounted in a control panel enclosure using the 3-hole mounting pattern. For additional modules, use the optional D137 Mounting Bracket.

Wiring considerations

The B308 connects to a control panel using the PWR, A, B, COM terminals on the control panel using the screw terminal strip or the pluggable interconnect wiring connector. Use 12 AWG to 22 AWG (1.5 mm to 0.6 mm) wires from the module to the control panel. Observe relay specifications (up to 24 VDC), verifying not to exceed the relay ratings.

Compatibility

For UL 864 compliance, use a UL commercial fire approved control panel.

Control panels	B9512G/B9512G-E (Up to 59 modules) B8512G/B8512G-E (Up to 9 modules) B6512 (Up to 9 modules) B5512/B5512E (Up to 5 modules) B4512/B4512E (Up to 3 modules) D9412GV4 (Up to 12 modules) D7412GV4 (Up to 6 modules) D7212GV4 (Up to 2 modules)
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Parts included

Quantity	Component
1	Module
1	Hardware pack
1	Interconnect cable
1	Installation manual

Technical specifications

Properties

Dimensions	2.9 in x 5.0 in x 0.60 in (7.35 cm x 12.7 cm x 1.5 cm)
Weight	5 oz (0.14 kg)

Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F)
Temperature (operating)	0°C to +49°C (+32°F to +120°F)

Power requirements

Current (maximum)	Alarm: 150 mA (22 mA for digital section + 16 mA per energized relay)
Relay outputs	Dry contacts rated for .001 to 1.0 A at 5 to 24 VDC (resistive load).
Voltage	12 VDC nominal

Wiring

Terminal wire size	12 AWG to 22 AWG (2.0 mm to 0.65 mm)
SDI2 wiring	Maximum distance – Wire size (unshielded wire only): 400 ft (137 m) - 22 AWG (0.65 mm) 1000 ft (305 m) - 18 AWG (1.02 mm)

Ordering information

B308 Octo-output Module

Provides 8 programmable relays.
Order number **B308**

Represented by:

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
emea.securitysystems@bosch.com
emea.boschsecurity.com

Germany:
Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
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www.boschsecurity.com

North America:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
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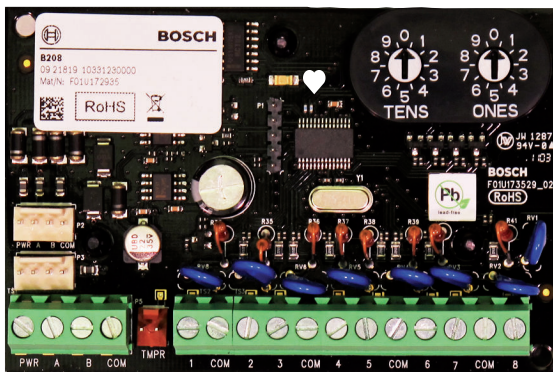
Asia-Pacific:
Robert Bosch (SEA) Pte Ltd, Security Systems
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apr.securitysystems@bosch.com
www.boschsecurity.asia

B208 Octo-input Module

www.boschsecurity.com



BOSCH
Invented for life



- ▶ Programmable input point functions
- ▶ Easy to read switch addressing
- ▶ 2 interconnect wiring connectors
- ▶ Provides eight points

The B208 Octo-input Module is an 8 point expansion device that connects to the control panel through the SDI2 bus. This module is fully supervised and communicates back to the control panel all point status changes. The module expansion points operate the same as the points on the control panel. Industrial, commercial, and institutional facilities are typical installations for the B208 module. The B208 connects to the SDI2 bus on the control panel using SDI2 terminals, or using the interconnect cable. You can connect multiple B208 modules to a single control panel. The B208 address switches allow for ease of use in device addressing.

System overview

The B208 Octo-input Module connects to a control panel through the SDI2 bus. This module is supervised and communicates back to the control panel all point status changes. The module's expansion points operate the same as the points on the control panel.

Functions

Loop inputs

The B208 uses up to eight inputs which may be Normally Open (NO), or Normally Closed (NC) with 1k Ω EOL resistor(s) for supervision.

Certifications and approvals

Region	Certification	
Australia	RCM	ACMA
Europe	CE	EMC, RoHS
USA	UL	
	UL	UL 365 - Police Station Connected Burglar Alarm Units
	UL	UL 609 - Standard for Local Burglar Alarm Units and Systems
	UL	UL 636 - Holdup Alarm Units and Systems
	UL	UL 864 - Standard for Control Units and Accessories for Fire Alarm Systems
	UL	UL 985 - Household Fire Warning System Units
	UL	UL 1023 - Household Burglar Alarm System Units
	UL	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL	UL 1610 - Central Station Burglar Alarm Units
	FM	FM 3010 - Fire Alarm Signaling Systems
	CSFM	see our website

Region	Certification	
	FCC	Part 15 Class B
	FDNY-CoA	6174
	FDNY-CoA	6196
Canada	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	IC	ICES-003 - Information Technology Equipment (ITE)

Installation/configuration notes

Wiring considerations

The module to the control panel using the PWR, A, B, COM terminals on the control panel using the screw terminal strip or the interconnect wiring connector. Use 12 AWG to 22 AWG (1.5 mm to 0.6 mm) wires from the module to the control panel.

Compatibility

For UL 864 compliance, use a UL commercial fire approved control panel.

Control panels	B9512G/B9512G-E (Up to 59 modules) B8512G/B8512G-E (Up to 9 modules) B6512 (Up to 9 modules) B5512/B5512E (Up to 4 modules) B4512/B4512E (Up to 2 modules) D9412GV4 (Up to 24 modules) D7412GV4 (Up to 7 modules) D7212GV4 (Up to 3 modules)
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Parts included

Quantity	Component
1	Module
1	Hardware pack
1	Interconnect cable
1	Installation manual

Technical specifications

Properties

Dimensions	2.5 in x 3.8 in x 0.60 in (6.37 cm x 9.6 cm x 1.5 cm)
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Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F)
Temperature (operating)	0°C to +49°C (+32°F to +120°F)

Power requirements

Current	35 mA
Voltage	12 VDC nominal

Wiring

SDI2 wiring	Maximum distance – Wire size (unshielded wire only): 1000 ft (305 m) – 22 AWG (0.65 mm) 1000 ft (305 m) – 18 AWG (1.02 mm) Unshielded wire only
-------------	---

Loop inputs

Loop Inputs	Up to eight inputs. Input contacts may be Normally Open (NO) or Normally Closed (NC) with 1kΩ EOL resistor(s) for supervision. Note: Normally Closed (NC) is not permitted in Fire installations.
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Ordering information

B208 Octo-input Module

Provides 8 programmable inputs.

Order number **B208**

Represented by:

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
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Germany:
Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
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www.boschsecurity.com

North America:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
onlinehelp@us.bosch.com
www.boschsecurity.us

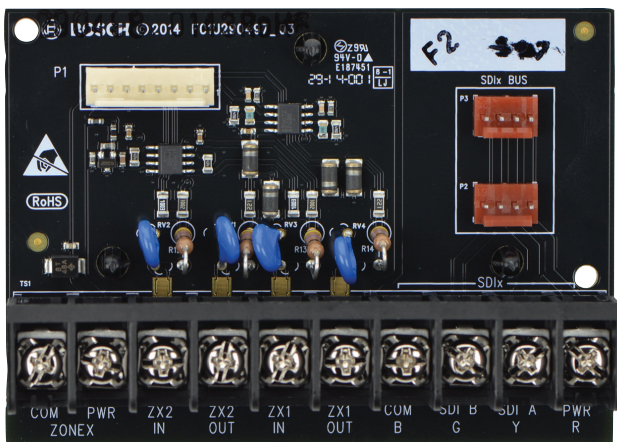
Asia-Pacific:
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www.boschsecurity.asia

B600 ZONEX retrofit module

www.boschsecurity.com



BOSCH
Invented for life



- ▶ 3-hole mounting footprint and compact size allow for easy installation
- ▶ Provides legacy ZONEX input/output support
- ▶ Compact size
- ▶ Includes two ZONEX busses allowing for continued ZONEX support on a compatible control panel

The B600 Retrofit (ZONEX) Module communicates to the control panel through a proprietary connection, and provides support for two ZONEX busses. Connect the B600 module to the control panel through a proprietary connection.

System overview

Each module installs in the control panel enclosure or in an adjacent approved enclosure. Each ZONEX bus supports up to 15 D8128D modules, and/or up to 8 D8129 Octo-relay modules per bus. D8128D and D8129 modules can be combined on a single ZONEX bus. Total number of modules cannot exceed 15 modules.

Using your existing terminal block wiring strip, retrofitting your current ZONEX devices for use on your new control panel is effortless and easy. Simply remove the existing ZONEX terminal strip from your current control panel, and insert onto the B600.

Functions

The B600 Retrofit (ZONEX) Module gives you the flexibility to continue using legacy ZONEX products with either the B9512G or B8512G control panels.

Certifications and approvals

Region	Regulatory compliance/quality marks	
USA	UL	Underwriters Laboratories
	UL	UL 1023 - Household Burglar Alarm System Units
	UL	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL	UL 1610 - Central Station Burglar Alarm Units
	UL	UL 365 - Police Station Connected Burglar Alarm Units
	UL	UL 609 - Standard for Local Burglar Alarm Units and Systems
	UL	UL 636 - Holdup Alarm Units and Systems
	UL	UL 864 - Standard for Control Units and Accessories for Fire Alarm Systems (10th edition)
	UL	UL 985 - Household Fire Warning System Units (6th edition)
	UL	UL 294 - Standard for Access Control Units and Systems

Region	Regulatory compliance/quality marks	
	UL	UL 1635 - Standard for Digital Alarm Communicator System Units
	FM	Central Station
	FM	Local Protective Signaling
	FM	Remote Station
	CSFM	California State Fire Marshal (see our website)
	FCC	Part 15 Class B
Canada	ULC	Underwriters Laboratories of Canada
	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	CAN/ULC S545 - Residential Fire Warning System Control Units
	ULC	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	IC	ICES-003 - Information Technology Equipment (ITE)

Installation/configuration notes

Mounting

Mount the module into the enclosure's 3-hole mounting pattern using the mounting screws and mounting bracket.

Wiring

Use the control panel SDI2 terminals labeled R, Y, G, B (PWR, A, B, COM) when wiring to the module. Connect the control panel terminals to the module terminals labeled R, Y, G, B (PWR, A, B, COM). You can also use the SDI2 interconnect cable.

Compatibility

Accessories	D8125 Zone Expansion Module D8128D OctoPOPIT Eight-point Expander D8129 Octo-relay Module
-------------	---

The B600 ZONEX module includes two ZONEX busses (ZONEX1, ZONEX2).

Compatible module	ZONEX 1	ZONEX 2
D8125 Zone Expansion Module	1	1
D8128D OctoPOPIT Eight-point Expander	15	15
D8129 Octo-relay Module	15	15



Notice

ZONEX, D812x, and POPIT capacities are dependant upon the control panel's specified capacities.

Parts included

Quantity	Component
1	ZONEX module
1	Hardware pack
1	Literature pack
1	ZONEX connection cable

Technical specifications

Properties

Dimensions	2.76 in x 3.86 in x 1.03 in (70.3 mm x 98 mm x 26 mm)
Weight	11.2 oz (0.30 kg)

Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F)
Temperature (operating)	0°C to +49°C (+32°F to +120°F)

Power requirements

Current	Standby: 12 mA + total device current Alarm: 12 mA + total device current
Voltage (input)	12 VDC nominal

Wiring

Terminal wire size	12 AWG to 22 AWG (2.0 mm to 0.65 mm)
SDI wiring	Use the supplied interconnect cable (P/N: F01U079745)
ZONEX wiring	Use the supplied ZONEX connection cable (P/N: F01U295103)

Ordering information

B600 ZONEX retrofit module

Retrofit (ZONEX) module providing legacy support for ZONEX products with B9512G/B8512G control panels. Order number **B600**

Represented by:

Europe, Middle East, Africa:
Bosch Security Systems B.V.
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Germany:
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Robert-Bosch-Ring 5
85630 Grasbrunn
Germany
www.boschsecurity.com

North America:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
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Asia-Pacific:
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www.boschsecurity.asia

B942 Touch Screen Keypad

www.boschsecurity.com



BOSCH
Invented for life



- ▶ Color graphic touch screen display uses a combination of simple icons and text for easy operation
- ▶ Built-in presence detector lights the display when user approaches keypad
- ▶ Built-in proximity reader allows use of a token or card as replacement for a passcode, or for use with dual authentication for high security areas
- ▶ Four inputs and one output provide cost effective expansion
- ▶ Slim, modern design blends with any decor

The keypad is an SDI2 bus compatible device. The keypad features an illuminated touch screen and graphical interface. With an elegant design and low profile, the keypad fits with any modern decor. Each keypad has user adjustable options such as volume and brightness. They have four inputs and one output. The keypad shows system messages for all areas.

Keypad languages

The following languages are available:

- English
- Chinese
- French
- Greek
- Italian
- Hungarian
- Polish
- Portuguese
- Spanish

System overview

- For commercial use, install the keypad in building entrances and areas with unrestricted access. Mounting a keypad near exterior doors in hotel or business lobbies allows people to identify the type and location of the emergency.

- For residential use, install the keypad near the front and rear entrances to the home. Install additional keypads in a kitchen or in a bedroom.
- Use multiple keypads in a large building with many separate areas of security. Program multiple keypads to control multiple areas.
- Audible tones from the keypad sounder alert personnel to fire events and assist fire fighters in locating the keypad.

Functions

Display

The touch screen display uses icons, words, numbers, and symbols to show the status of the security system and for interacting with the security system. When several events occur, the keypad shows each event in order of priority. The keypad detects when a user approaches and automatically activates the display.

User icons and keys

The keypad greets the user with a home screen that shows the system status at one glance using a large icon. The user can change the system status by simply touching this home screen icon. The touch screen display also offers icons on the ribbon bar. These visually pleasing graphical icons are easy to use for

accessing menus and other options. The keypad has a variety of keyboards for entering alphanumeric characters. The keypad screen has numeric keys and one function [CMD] key. When pressed, keys emit a muted beep. Use the keyboards for entering passcodes, activating commands, and entering alphanumeric characters.

Audible tones

The keypad has a built-in speaker that produces several distinct warning tones. The tones are differentiated so that the user can recognize an event simply by hearing its associated tone. The keypad backlight illuminates when it emits an audible tone. Users can use a passcode or credential to silence the tone.

Status indicators

The status indicators on the keypad provide a quick visual reference for system status.

✓	The indicator lights when the system is ready to turn on (arm).
🔒	The indicator lights when the system is on (armed).
⚠️	The indicator lights when there is a trouble condition.
🔥	The indicator lights when dangerous gases are present including carbon monoxide (NFPA 720).
⚡	The indicator lights when the system has power.

Proximity reader

The proximity reader allows users to use a token or card in place of a passcode to turn on or off the security system. The proximity reader supports EM4102 (125 kHz) credentials. The Bosch ACA-ATR13-RFID tag and Bosch ACD-ATR11ISO-RFID card are examples.

Certifications and approvals

Region	Regulatory compliance/quality marks	
Australia	RCM	ACMA
Europe	CE	RED, EMC, LVD, RoHS [B942 B942W]
USA	UL	UL 365 - Police Station Connected Burglar Alarm Units
	UL	UL 609 - Standard for Local Burglar Alarm Units and Systems
	UL	UL 636 - Holdup Alarm Units and Systems
	UL	UL 985 - Household Fire Warning System Units
	UL	UL 1023 - Household Burglar Alarm System Units
	UL	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL	UL 1610 - Central Station Burglar Alarm Units

Region	Regulatory compliance/quality marks	
	CSFM	see the Bosch website (www.boschsecurity.com)
	FCC	Part 15 Class B
Canada	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	CAN/ULC S545 - Residential Fire Warning System Control Units
	ULC	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	IC	ICES-003 - Information Technology Equipment (ITE)

Installation/configuration notes

Power supply

A compatible control panel supplies the power and data requirements to the keypad through a four-wire connection.

Mounting and wiring

Mount in dry indoor locations.

Includes a slim mounting plate for recessing wiring, and a surface mounting plate for surface mounting and wiring.

Compatible control panels

B9512G/B9512G-E

B8512G/B8512G-E

B6512

B5512/B5512E firmware v2.03 and higher

B4512/B4512E firmware v2.03 and higher

B3512/B3512E firmware v2.03 and higher

D9412GV4/D7412GV4 v2.03 and higher

Technical specifications

Properties

Dimensions	6.2 in x 4.7 in x 0.65 in (158 mm x 120 mm x 16.5 mm)
Weight	11.3 oz (0.32 kg)
Material	Acrylonitrile butadiene styrene (ABS) Poly(methyl methacrylate) (PMMA)
Display window	Touch screen Multi-line messages
Indicators	Power indicator LED Status indicators Main icon Warning and indicating tones

Inputs	4 (four) 1k Ω supervised inputs
Output	1 (one) NO (normally open) contact

Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F) non-condensing
Temperature (operating)	0°C to +50°C (+32°F to +122°F)

Power requirements

Current with proximity reader disabled	Standby: 200 mA Alarm: 300 mA
Current with proximity reader enabled	Standby: 300 mA Alarm: 400 mA
Voltage (input)	12 VDC nominal

Wiring

Terminal wire size	18 AWG to 22 AWG (1.02 mm to 0.65 mm)
SDI2 wiring with prox detector disabled	Maximum distance - wire size (unshielded wire only): 200 ft (61 m) - 22 AWG (0.65 mm) 520 ft (159 m) - 18 AWG (1.02 mm)
SDI2 wiring with prox detector enabled	Maximum distance - wire size (unshielded wire only): 150 ft (46 m) - 22 AWG (0.65 mm) 390 ft (119 m) - 18 AWG (1.02 mm)

Inputs and output

On-board points voltage ranges	Open: 2.2 to 5.0 VDC Normal: 1.4 to 1.8 VDC Short: 0.0 to 1.0 VDC Short circuit current: 2.3 mA
Relay contact rating	24 VDC, 1 A, power factor: 1

Ordering information

B942 Touch Screen KP Prox/Input/Output, black

Black SDI2 touch screen keypad with inputs and one output.

Available languages: English, Chinese, French, Greek, Italian, Hungarian, Polish, Portuguese, Spanish.

Order number **B942**

B942W Touch screen KP, prox/input/output, white

White SDI2 touch screen keypad with inputs and one output.

Available languages: English, Chinese, French, Greek, Italian, Hungarian, Polish, Portuguese, Spanish.

Order number **B942W**

B942-CHI Touch Screen KP Prox/Input/Output, black

Black SDI2 touch screen keypad with inputs and one output.

Available language: Chinese.

Order number **B942-CHI**

B942W-CHI Touch Screen KP Prox/Input/Output, white

White SDI2 touch screen keypad with inputs and one output.

Available language: Chinese.

Order number **B942W-CHI**

Accessories

B56 Keypad surface mount box

Surface mount box for mounting a keypad to concrete or block.

Order number **B56**

B96 Trim plate for keypad

Cover the wall footprint of previous keypads when replacing them with the new, slim design of B Series keypads. The white trim bezel is 8.6 in x 6.3 in x 0.12 in (22 mm x 16 mm x 3 mm).

Order number **B96**

GV4-ROM-KEY Kit for GV4 version 2.x ROM

Firmware updates current D9412GV4/D7412GV4 v1.xx control panels to GV4 v2.xx.

Order number **GV4-ROM-KEY**

Represented by:

Europe, Middle East, Africa:
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85630 Grasbrunn
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www.boschsecurity.com

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apr.securitysystems@bosch.com
www.boschsecurity.asia

Blue Line Gen2 TriTech Motion Detectors

www.boschsecurity.com



BOSCH

Invented for life



- ▶ Pet-friendly Selectable model available – optimize installation for pet (45 kg [100 lb]) and non-pet applications
- ▶ Dynamic Temperature Compensation – superior catch performance in any environment
- ▶ Microwave Noise Adaptive processing – reduce false alarms from repetitive sources
- ▶ Wall to Wall Coverage – superior catch performance
- ▶ Flexible Mounting Height, No Adjustments – reduce installation time and false alarms, improve catch performance

The Blue Line Gen2 TriTech Motion Detectors (ISC-BDL2) use a combination of passive infrared (PIR) and microwave detection technologies with advanced signal processing. The pet-friendly (-WP) models generate alarms for human intruders without generating false alarms for pets. These small unobtrusive detectors are simple to install and do not need field adjustments.

Functions

First Step Processing (FSP)

First Step Processing (FSP) almost instantly responds to human targets without producing false alarms from other sources. FSP adjusts the detector's sensitivity based on signal amplitude, polarity, slope, and timing. This eliminates the need for the installer to select the sensitivity level, thus improving ease of installation and reliability.

Pet-friendly Selectivity (-WP models only)

The installer can turn pet immunity on or off based upon application requirements. When pet immunity is turned off, the detector provides superior catch performance identical to the non-pet models. When pet immunity is turned on, the detector can

distinguish between signals caused by humans and signals caused by pets. It ignores signals caused by one or two pets up to 45 kg (100 lb) or numerous rodents.

Microwave Noise Adaptive Processing

Microwave Noise Adaptive Processing adjusts to background disturbances, reducing false alarms without sacrificing intruder detection.

Dynamic Temperature Compensation

The detector intelligently adjusts its sensitivity so that it can identify human intruders at virtually any temperature.

Wall-to-Wall Coverage

An improved lookdown zone and coverage range of 12 m x 12 m (40 ft x 40 ft) provide wall-to-wall coverage.

Self-locking Enclosure

The sliding self-locking enclosure has an integrated bubble level and custom gap-free, lift-gate style terminal blocks to make installation easier.

Sealed Optics and Electronics

The optics and electronics are assembled into the front enclosure and sealed with a protective cover to prevent damage during installation. The sealed optical chamber also prevents drafts and insects from affecting the detector.

Test Features

Externally visible alarm LED can be disabled after installation.

Certifications and approvals

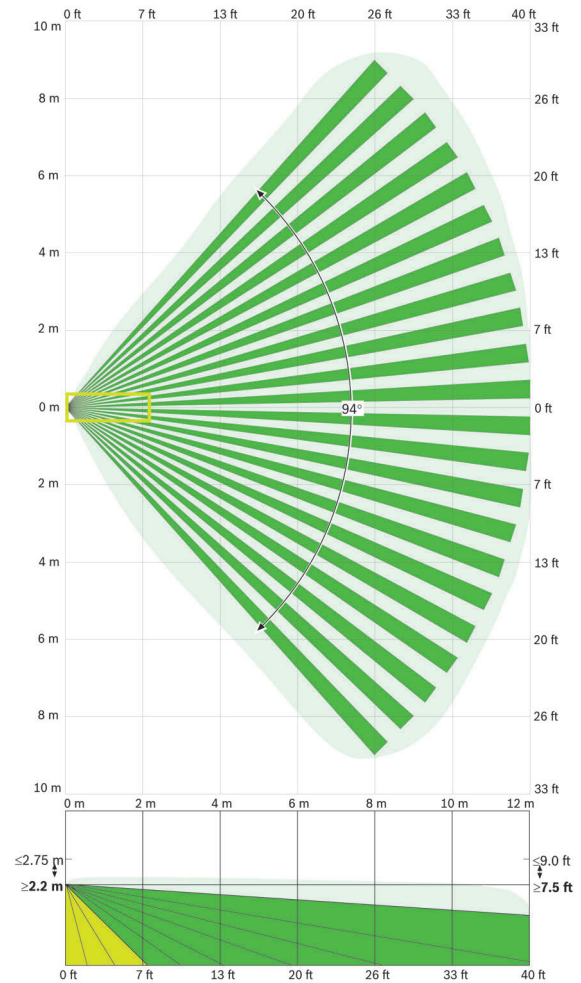
These detectors are also designed to comply with the following:

- Europe Complies with Directive 2002/95/EC - Restriction of the use of certain Hazardous Substances (RoHS)
- China Complies with CCC GB10408.1 and GB10408.9

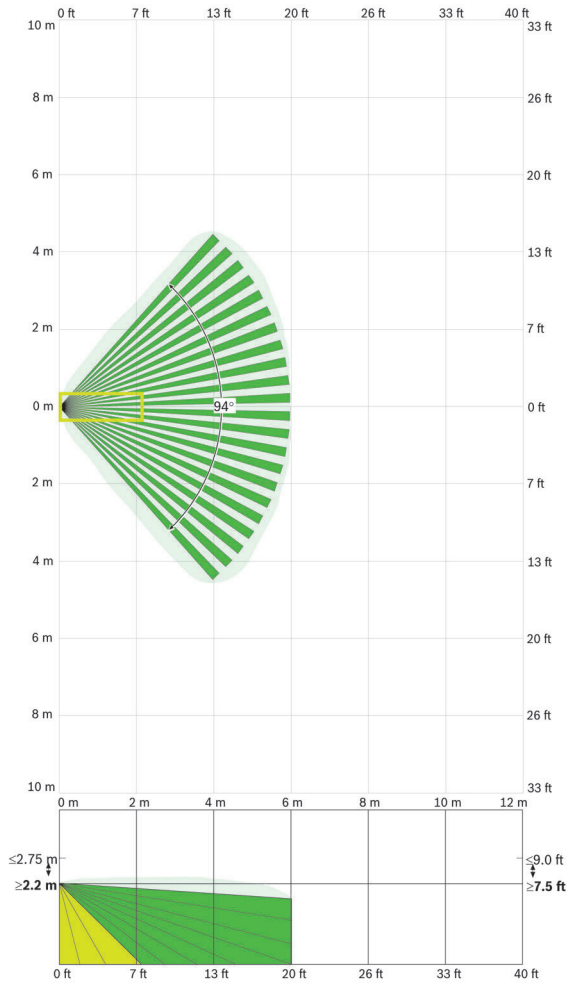
Region	Regulatory compliance/quality marks	
Russia	GOST	TC N RU Д-НЛ.МН09.В.00334 EAC
USA	UL	[ISC-BDL2-W12G, ISC-BDL2-WP12G, ISC-BDL2-WP6G]
	UL	20190115; UL639 – Standard for Intrusion-Detection Units
Canada	FCC	[ISC-BDL2-W12G, ISC-BDL2-WP12G, ISC-BDL2-WP6G]
	ULC	CAN/ULC S306-03 - Canadian Standard for Intrusion Detection Units
China	IC	[ISC-BDL2-W12G, ISC-BDL2-WP12G, ISC-BDL2-WP6G]
	CCC	2010031901000323 [ISC-BDL2-WP6G-CHI, ISC-BDL2-WP12G-CHI, ISC-BDL2-CB12G-CHI]

Installation/configuration notes

Coverage Patterns



12 m x 12 m (40 ft x 40 ft) coverage



6 m x 6 m (20 ft x 20 ft) coverage (ISC-BDL2-WP6G, ISC-BDL2-WP6G-CHI)

Mounting

The recommended mounting height is 2.2 m to 2.75 m (7.5 ft to 9 ft) with no adjustments required.

Mount the motion detector level, both horizontally and vertically.

Mounting options:

- On a flat wall (surface, semi-flush), with the optional B335-3 Swiveling low-profile mount, or with the optional B328 Gimbal-mount Bracket
- In a corner (the junction of two perpendicular walls)
- On the ceiling with the optional B338 Universal Ceiling-mount Bracket

Technical specifications

Electrical

Current (alarm/standby):	10 mA at 12 VDC
Voltage (operating):	9 VDC to 15 VDC

Environmental

Pet Immunity ¹ :	One or two pets up to 45 kg (100 lb) or numerous rodents
Relative Humidity:	0 to 95%, non-condensing <i>For UL Listed product installations, 0 to 85%, non-condensing</i>
Temperature (operating):	-30°C to +55°C (-20°F to +130°F) <i>For UL Listed product installations, 0°C to +49°C (+32°F to +120°F)</i>

¹ Applies to the Pet Friendly models only and only when the Pet Immunity feature is turned on.

Mechanical

Color:	white
Dimensions:	105 mm x 61 mm x 44 mm (4.2 in. x 2.4 in. x 1.7 in.)
Material:	High-impact ABS plastic
Radio Frequency Interference (RFI) Immunity	No alarm or setup on critical frequencies in the range from 150 kHz to 2 GHz at field strengths less than 30 V/m.

Outputs

Relay:	Solid state, supervised, Form A normally-closed (NC) contacts rated for $\leq 100\text{ mA}$, 25 VDC, 2.5 W, $< 20\ \Omega$ closed
Tamper:	Normally-closed (NC) contacts (with cover on) rated for $\leq 100\text{ mA}$, 25 VDC, 2.5 W Connect tamper circuit to 24-hour protection circuit.

Ordering information**ISC-BDL2-W12G Motion detector, 40ft (12m)**

Provides PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. Frequency: 10.525 GHz

Order number **ISC-BDL2-W12G**

ISC-BDL2-W12H Motion detector, 40ft (12m), 10.588 GHz

Provides PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. For use in France and the United Kingdom. Frequency: 10.588 GHz

Order number **ISC-BDL2-W12H**

ISC-BDL2-WP6G Motion detector, pet friendly, 20ft (6m)

Provides Pet Friendly PIR and microwave, 6 m x 6 m (20 ft x 20 ft) coverage. Frequency: 10.525 GHz

Order number **ISC-BDL2-WP6G**

ISC-BDL2-WP12G Motion detector, pet friendly 40ft (12m)

Provides Pet Friendly PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. Frequency: 10.525 GHz

Order number **ISC-BDL2-WP12G**

ISC-BDL2-WP12H Detector, pet friendly, 40ft, 10.588 GHz

Provides Pet Friendly PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. For use in France and the United Kingdom. Frequency: 10.588 GHz

Order number **ISC-BDL2-WP12H**

ISC-BDL2-WP6G-CHI Motion detector, pet friendly, 20ft (6m)

Provides Pet Friendly PIR and microwave, 6 m x 6 m (20 ft x 20 ft) coverage. For use in China. Frequency: 10.525 GHz

Order number **ISC-BDL2-WP6G-CHI**

ISC-BDL2-WP12G-CHI Motion detector, pet friendly 40ft (12m)

Provides Pet Friendly PIR and microwave, 12 m x 12 m (40 ft x 40 ft) coverage. For use in China. Frequency: 10.525 GHz

Order number **ISC-BDL2-WP12G-CHI**

Accessories**B328 Mounting bracket, gimbal**

Mounts on a single-gang box and allows rotation of a detector. Wires are hidden inside.

Order number **B328**

B335-3 Mounting bracket, swivel, low profile

Swiveling, low-profile, universal bracket for wall mounting. The vertical swivel range is +10° to -20°, while the horizontal swivel range is ±25°.

Order number **B335-3**

B338 Mounting bracket, ceiling, universal

Swiveling universal bracket for ceiling mounting. The vertical swivel range is +7° to -16°, while the horizontal swivel range is ±45°.

Order number **B338**

Represented by:**Europe, Middle East, Africa:**

Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
emea.securitysystems@bosch.com
emea.boschsecurity.com

Germany:

Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
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North America:

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Phone: +1 800 289 0096
Fax: +1 585 223 9180
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Meridian, ID 83642
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F 208.501.0031

ConteralP® Outdoor Dome EX Megapixel Camera

5 Megapixel (MP) H.265/H.264 All-in-One Motorized P-Iris Lens True Day/Night Indoor/Outdoor Dome IP Camera with SNAPstream+™ (Smart Noise Adaptation and Processing), Enhanced WDR™ (Wide Dynamic Range), NightView™, Smart IR, and Video Analytics

H.265



The ConteralP® Outdoor Dome EX megapixel camera features 5-megapixel (MP) resolution for optimum performance. The ConteralP Outdoor Dome combines a day/night mechanical IR cut filter with an integrated motorized remote focus and zoom precision iris (P-iris) lens for excellent, optimal image quality. The ConteralP Outdoor Dome EX is ONVIF (Open Network Video Interface Forum) Profile S, G, and T compliant, providing interoperability between network video products regardless of manufacturer.















The inclusion of on camera video analytics gives the ConteralP Outdoor Dome EX the ability to increase situational awareness and gather data for business intelligence. Alarm conditions can be setup to alert security for observed behaviors. Several of the analytic behaviors can also be used for business intelligence data gathering, such as the loitering behavior for tracking dwell time in retail environments.

Regardless of the time of day, the ConteralP Outdoor Dome EX is prepared for any lighting condition. Enhanced WDR™ (wide dynamic range) at 120dB provides the best visual balance to shaded and bright

light conditions, NightView™ offers strong low-light sensitivity for capturing details in extremely poor-lit scenes, and built-in Smart IR LED illumination automatically adjusts output in response to the distance of an object in view to prevent over-exposure when the object is very close to the camera.

AV Costar™ was the first to bring H.264 to the mainstream market and recently developed SNAPstream™ (Smart Noise Adaptation and Processing) technology for reducing bandwidth without impacting image quality. Today we are proud to offer our next generation H.265 with SNAPstream+™ smart codec capable of delivering high quality video while saving over 50% of the data rate to reduce or prevent strain on the network.

The microSD card slot supports up to 256GB of storage capacity for convenient onboard storage. The camera's power can be supplied via a Power-over-Ethernet (PoE - IEEE 802.3af) compliant network cable connection. The ConteralP Outdoor Dome EX is IP66 rated for both indoor and outdoor applications. All models feature an impact resistant cast-aluminum housing capable of withstanding the equivalent of 55 kg (120 lbs) of force.

 Integrated Motorized Lens with Remote Focus and Zoom	 P-Iris Control for Best Depth of Field and Image Clarity	 Smart IR LEDs	 True Day/Night with IR Cut Filter	 All-in-One PoE and Integrated Lens	 Impact / Weather Resistant IK-10 and IP66 Rated	 Advanced Video Analytics
 SNAPstream+™ Technology	 NightView™	 Enhanced WDR™ Wide Dynamic Range	 CorridorView™ with 90° Image Flip	 Tri-Encoder H.265/H.264/MJPEG	 SDXC Card Slot	 Installer Friendly

Series Features

- 5MP Resolution
- Advanced Video Analytics
- Remote Focus/Zoom Motorized P-Iris Lens
- SNAPstream+™ Capability to Reduce Bandwidth without Impacting Image Quality
- NightView™ for Strong Low Light Performance
- True Day/Night Functionality with Mechanical IR Cut Filter
- Enhanced WDR up to 120dB at Full Resolution: See Clearly in Shaded and Bright Light Conditions Simultaneously
- CorridorView™ Allows 90° Image Rotation for Better Coverage in Hallways and Corridors
- Privacy Mask, Motion Detection, Bit Rate Control, Multi-Streaming, Multicasting, Forensic Zooming, and Scaling
- On-Screen Display (OSD)
- Defog Technology
- Triple Encoder: H.265/H.264/MJPEG
- Network Protocols Include SNMP, HTTPS, IPv6, DHCP, 802.1x, and More
- All-in-One H.265/H.264 Total PoE Solution (No External Power Required for Heater and IR LEDs), PoE and Auxiliary Power: 12–48V DC/24V AC
- Smart IR Illumination with Variable Illumination Ensures that IR Light is Evenly Disbursed up to 66ft (20m) for Scenes with Low or No Ambient Light
- Audio In / Out (Accessory Sold Separately)
- MicroSDXC Card Slot for Onboard Storage
- Outdoor Rated IP66 and IK-10 Impact-Resistant Housing
- Easily Adjustable 3-Axis Gimbal

Camera Imaging Specifications

Model	AV5456PMIR-S	
Image Sensor	5MP CMOS Progressive Sensor	
Optical Format	1/2.9"	
Minimum Illumination	Color (Day Mode)	0.1 Lux
	B/W (Night Mode)	0.01 Lux
Full FOV Resolution	2592 H x 1944 V	
Scaling (See <i>Scaling Resolutions Below</i>)	Yes	
IR Illumination	Yes	
Dynamic Range	120dB	
Frame Rates ¹	Single Stream	Up to 30fps (5MP) ²
	Multi-Stream	Up to 15fps (5MP) ² + 10fps (5MP) ²
		Up to 30fps (1080p) ² + 30fps (720p) ² + 30fps (VGA) ²
Lens	Motorized Lens	2.7–12mm, F1.3, H-FOV = 24°–81°, V-FOV = 18°–57°, P-Iris

Programmability

Optics	Remote focus, remote zoom
Low-Light Performance	NightView™ technology
	Smart IR
Programmable Shutter Speed	Auto/manual 0.1ms ~ 500ms
Motion Detection	Real-time, 1024 detection zones
Privacy Masking	Unlimited
Backlight Compensation	Auto
White Balance Mode	Auto/manual
Gain Control	Auto
Flicker Control ²	5Hz–255Hz selectable
Image Rotation	CorridorView™ (90°, 180°, and 270° image rotation) + mirror
Scaling	2592x1944, 2048x1536, 1920x1080, 1296x972, 1280x720, 640x480, 640x360, 320x240
Wide Dynamic Range	Adjustment between WDR and LDR modes
Efficiency	SNAPstream+™ (Smart Noise Adaptation and Processing)
	Bit rate and bandwidth limitation control
Defog	Supported
Miscellaneous	Programmable brightness, contrast, sharpness, saturation, hue
	Electronic pan, tilt, zoom (PTZ)
Password	16-digit ASCII character password
On-Screen Display (OSD)	Time/date/camera name/custom text
Basic Video Analytics	Motion Detection
	Camera Tamper
Advanced Video Analytics ⁴	Intrusion Detection
	Line Crossing
	Loitering
Optional Advanced Video Analytics ⁵	Object Classification (Person/Vehicle) ⁵
	Object Left/Removed ⁵
	People/Vehicle Counting ⁵

Data Transmission

Compression Type	H.265/H.264 (MPEG-4, Part 10)/Motion JPEG
Bit Rate Control	64K–8000K
Smart Codec	Smart GOP/Smart ROI
Transmission Protocols	SNMP, HTTP, HTTPS, IPv6, IPv4, SSL, TCP/IP, UPnP, UDP, RTCP, RTSP, RTP, SMTP, NTP, DHCP, FTP, 802.1x, Zero Configure
	10/100Base-T Ethernet network interface, RJ45
Multi-Streaming	2 x H.265/H.264 stream, 1 x M-JPEG stream
Users	Live viewing/Administrator for up to 10 clients

Event Management

Event Trigger	Motion detection, video analytics, alarm in
Notifications	Send/record message via e-mail/FTP/NAS/SD card, record JPG/mp4

Compliance

Industry Standard	ONVIF Profile S, G, T conformant
Listings	UL (CB) UL60950-1, E489591
FCC Compliance	47 CFR 15 Class A
Environmental	RoHS, REACH, WEEE
Markings	CE: EN55032 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN60950
Mechanical	IK-10 (EN62262), IP66 (EN60529)

Environmental

Operating Temperature	-20°C (-4°F) to +50°C (122°F)
Humidity	0% to 90% (non-condensing)
Storage Temperature	-40°C (-40°F) to +60°C (140°F)

General Electrical

Alarm Input/Output	1 input (wet contact)/1 output (wet contact)
Power Over Ethernet	PoE IEEE 802.3af, Class 3
	Total PoE solution (no external power requirement)
Auxiliary Power	12–48V DC, 24V AC
Power Consumption	6.5W PoE max

- 30 frames per second (FPS) maximum with H.264 and H.265 compression at 60 hertz (Hz), up to 25fps maximum at 50Hz
- Max FPS with Enhanced WDR™ turned on will be up to 50% of listed FPS
- Limited to 180° rotation with video analytics enabled
- Analytics are not designed for heavy traffic locations such as roads and intersections
- Requires Optional Advanced Video Analytic License

IR Illuminator

LEDs	12pcs, Smart IR
Projection Distance	66ft (20m) max

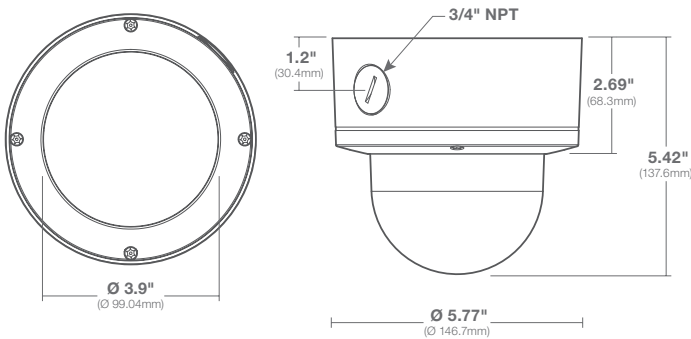
Audio Electrical

Streaming	Two-way
Compression	G.711 PCM 8 kHz
Input/Output	Line in® / Line output

Mechanical

Casing	Die-cast aluminum chassis with 4" polycarbonate dome bubble	
	IP66 weather proof standard	
	Impact resistant, IK-10 rated	
Gimbal	Easily adjustable 3-axis camera gimbal w/360° pan, 77° tilt and 180° z-axis	
Dimensions <i>(See Dimensions)</i>	Unit	Ø 5.77" (146.7mm) x 5.42" H (137.6mm)
	Packaged	6" H (150mm) x 7.5" W (190mm) x 8" L (200mm)
Weight	Unit	2.65lbs (1.2kg)
	Packaged	3.31lbs (1.5kg)
On Board Storage	MicroSDXC slot up to 256GB (card not included)	
Body Color	AV Costar White (Pantone® Cool Gray 1C)	

Dimensions



6. Requires Amplification

See Next Page for Ordering Information



Model Numbers

5MP	AV5456PMIR-S	WDR
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Optional Advanced Video Analytic License

AV-CADVA1	Enables Optional Advanced Video Analytic Behaviors on ConteraIP EX Cameras
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Accessories

AV-1AK	ConteraIP Outdoor Dome Optional Audio Kit
AV-CRMA-W	Corner Mount Adapter (AV Costar White)
AV-FMA	Flush Mount Adapter (White)
AV-PMA-W	Pole Mount Adapter (AV Costar White)
AV-PMJB-W	Pendant Mount Bracket with Standard Junction Box (AV Costar White) (Fits Cap 1.5" NPT, Box Fits 3/4" NPT)
AV-WMJB-W	Wall Mount Bracket with Standard Junction Box (AV Costar White) (Fits Cap 1.5" NPT, Box Fits 3/4" NPT)
MD-CAP-W	Mounting Cap for ConteraIP Outdoor Dome (AV Costar White)
MD-JBA-W	Round Junction Box for ConteraIP Outdoor Dome (AV Costar White) (Fits 3/4" NPT)

Configurations



Surface mount dome

Create Your Model (Example: AV5456PMIR-S)

Megapixel Resolution	Generation	Body Type	Compression	Lens	Infrared	Onboard Storage
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Rev 001.005



ConteralP® Omni LX Remote Setup Megapixel Camera

8 or 20 Megapixel (MP) H.265/H.264 All-in-One Remote Setup Omni-Directional Remote-Configurable Multi-Sensor True Day/Night Indoor/Outdoor Dome IP Cameras with SNAPstream+™ (Smart Noise Adaptation and Processing), WDR (Wide Dynamic Range), and NightView™

H.265



The ConteralP® Omni LX Remote Setup (RS) is an industry-game-changing omni-directional, remote-configurable, multi-sensor, multi-megapixel camera built to provide outstanding high resolution video coverage for a wide range of applications. The unmatched coverage and capabilities of the ConteralP Omni LX RS provides organizations of all sizes the flexibility to deploy a surveillance camera system that truly matches their current and future requirements for complete situational awareness.

ConteralP Omni LX RS is available with a choice of 8- or 20-megapixel (MP) resolutions. The number of cameras required for a project can be dramatically reduced with a single ConteralP® Omni LX RS, thanks to its four customizable remote sensor gimbals. Installation is fast and easy. Install the hinged mounting plate, connect the PoE+ (Power-over-Ethernet) IP cable, and then remotely configure the camera. Select a preset choice for 180°, 270°, or 360° views, or use the intuitive interface to remotely pan, tilt, zoom, and focus each sensor. Two custom presets created by the user can be saved to memory. The camera is integrated with the industry's leading VMS/NVR platforms.

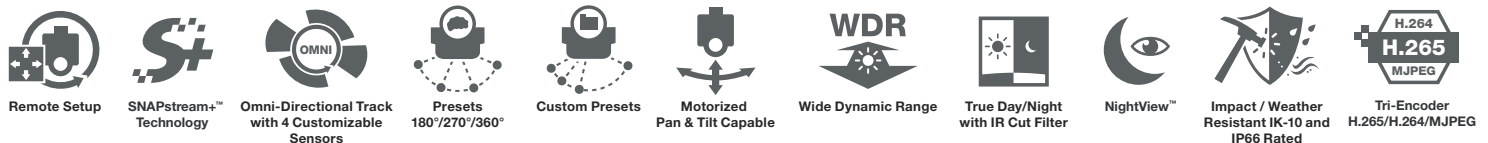
ConteralP® Omni LX RS is ideal for applications with normal to challenging lighting conditions. The Omni combines a day/night mechanical IR cut filter for the highest image quality at any time of day. For clear color images in low-light, NightView™

offers strong low-light sensitivity for capturing details in extremely poor-lit scenes. Power can be supplied via a single PoE+ (802.3at) compliant network cable or via an 12–48V DC/24V AC power supply.

ConteralP Omni LX RS is designed for demanding environments. Certified to rigorous dust and water tests, the camera carries an IP66 rating. The rugged dome housing is IK-10 rated to withstand the equivalent of 55 kg (120 lbs) of force for vandal-prone applications.

AV Costar™ was the first to bring H.264 to the mainstream market and recently developed SNAPstream™ (Smart Noise Adaptation and Processing) technology for reducing bandwidth without impacting image quality. Today we are proud to offer our next generation H.265 with SNAPstream+™ smart codec capable of delivering high quality video while saving over 50% of the data rate to reduce or prevent strain on the network.

The ConteralP Omni LX RS is ONVIF (Open Network Video Interface Forum) Profile S, G, Q and T compliant, providing interoperability between network video products regardless of manufacturer.



Series Features

- 8MP and 20MP Models
- No Touch Setup: 4 Individual Camera Gimbals Each with a Varifocal Motorized Lens That Can be Remotely Setup in Any Position Around a 360° Track
- Preset Positions to Create a 360°, 270°, or 180° Field of View, or Save Custom Presets
- SNAPstream+™ Advanced Compression Algorithm Reduces Bandwidth without Impacting Image Quality
- NightView™ for Strong Low Light Performance
- True Day/Night Functionality with Mechanical IR Cut Filter
- On-Screen Display (OSD)
- WDR at Full Resolution: See Clearly in Shaded and Bright Light Conditions Simultaneously
- Privacy Mask, Motion Detection, Bit Rate Control, Multi-Streaming, and Multicasting
- Triple Encoder: H.265/H.264/MJPEG
- Network Protocols Include SNMP, HTTPS, IPv6, DHCP, 802.1x, and More
- All-in-One H.265/H.264 Total PoE+ Solution PoE+ and Auxiliary Power: 12V-48V DC/24V AC
- Audio In / Out
- MicroSDXC Card Slot for Onboard Storage
- Outdoor Rated IP66 and IK-10 Impact-Resistant Housing

Camera Imaging Specifications

Model		AV8476RS	AV20476RS
Image Sensor (CMOS)		8MP (1080p x 4) CMOS Progressive Sensor	20MP (5MP x 4) CMOS Progressive Sensor
Optical Format		1/2.8"	1/2.8"
Pixel Pitch		2.0µm	2.0µm
Minimum Illumination	Color (Day Mode)	0.04 Lux	0.10 Lux
	B/W (Night Mode)	0.004 Lux	0.010 Lux
Full FOV Resolution		Total	7680 H x 1080 V
		Per Sensor	1920 H x 1080 V
Dynamic Range		Up to 100dB*	
		Up to 100dB*	
Frame Rates**	At Max Resolution	30fps (8MP)	15fps (20MP)
	Multi-Stream	Up to 30fps (8MP) + 20fps (8MP)	Up to 15fps (20MP) + 5fps (20MP)
		Up to 30fps (8MP) + 20fps (8MP) + 30fps (3.7MP)	Up to 15fps (20MP) + 5fps (20MP) + 15fps (4.9MP) Up to 15fps (12MP) + 15fps (12MP) + 15fps (1.2MP)
Lens (x4)		3.3–6.6mm, F1.7, H-FOV = 52°–99°	3.3–6.6mm, F1.7, H-FOV = 50°–97°

Programmability

Optics	Remote focus / zoom	
Low-Light Performance	NightView™ technology	
Programmable Shutter Speed	Auto/manual 0.1ms ~ 500ms	
Motion Detection	Real-time, 1024 detection zones	
Privacy Masking	Unlimited	
Backlight Compensation	Auto	
White Balance Mode	Auto/manual	
Gain Control	Auto	
Flicker Control	5Hz–255Hz adjustable	
Scaling <small>(Per Sensor)</small>	8MP	1920x1080, 1280x960, 1280x720, 960x540, 800x600, 640x480, 640x360
	20MP	2592x1944, 2560x1440, 2304x1296, 2048x1536, 1920x1080, 1600x1200, 1296x972, 1280x960, 1280x720, 800x600, 640x480
Wide Dynamic Range	Adjustment between WDR and LDR modes	
Efficiency	SNAPstream+™ (Smart Noise Adaptation and Processing)	
	Bit rate and bandwidth limitation control	
Miscellaneous	Programmable brightness, contrast, sharpness, saturation, hue	
	Electronic pan, tilt, zoom (PTZ)	
Password	16-digit ASCII character password	
On-Screen Display (OSD)	Time/date/camera name/custom text	

Data Transmission

Compression Type	H.265/H.264 (MPEG-4, Part 10)/Motion JPEG
	21 levels of quality
Bit Rate Control	64K–8000K
Smart Codec	Smart GOP/Smart ROI
Network Protocols	SNMP, HTTP, HTTPS, IPv6, IPv4, SSL, TCP/IP, UPnP, UDR, RTCP, RTSP, RTP, SMTP, NTP, DHCP, FTP, 802.1x, Zero Configuration
Network Interface	10/100/1000Mbps Ethernet, RJ45
Max Camera Bandwidth	40Mbps (10Mbps per sensor)
Multi-Streaming	2 x H.265/H.264 stream, 1 x M-JPEG stream (per sensor)
Users	Live Viewing/Administrator for up to 10 clients

Event Management

Event Trigger	Motion detection, tampering detection, alarm in
Notifications	Send/record message via e-mail/FTP/NAS, record JPG/mp4

Compliance

Industry Standard	ONVIF Profile S, G, Q, T conformant
FCC Compliance	47 CFR 15 Class A
Environmental	RoHS, REACH, WEEE
Markings	CE: EN55032 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN60950
Mechanical	IK-10 (EN62262), IP66 (EN60529)

Environmental

Operating Temperature	-40°C (-40°F) to +50°C (122°F)
Humidity	0% to 90% (non-condensing)
Storage Temperature	-40°C (-40°F) to +60°C (140°F)

Electrical

Alarm Input/Output	1 input (wet contact)/1 output (wet contact)
Power Over Ethernet	IEEE 802.3at (PoE+)
Auxiliary Power	12-48V DC, 24V AC
Power Consumption	23W max

Audio Electrical

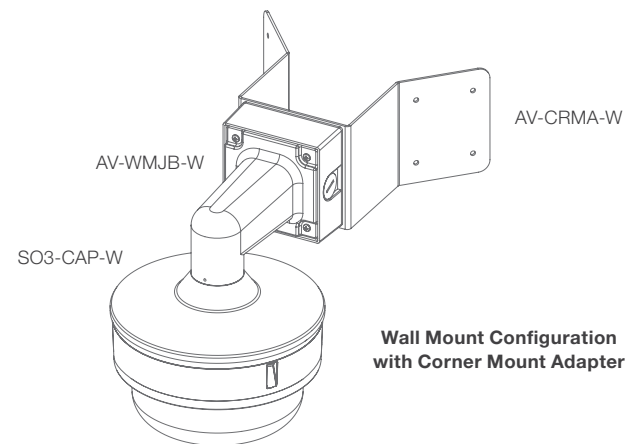
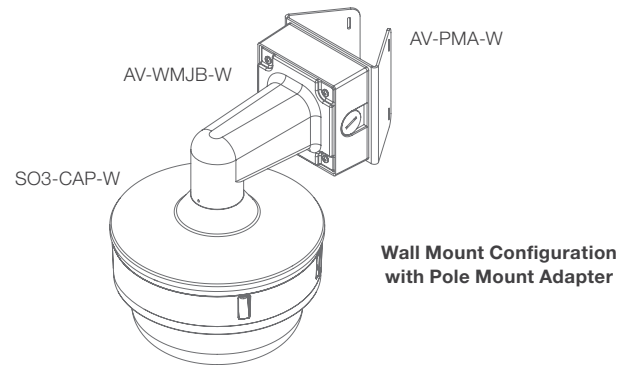
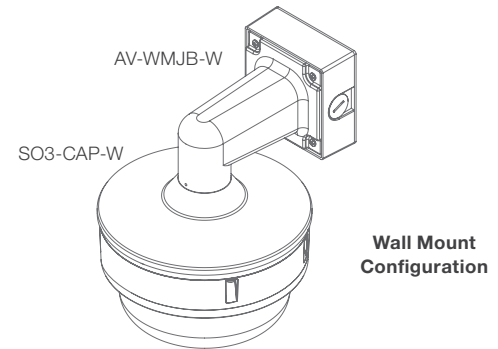
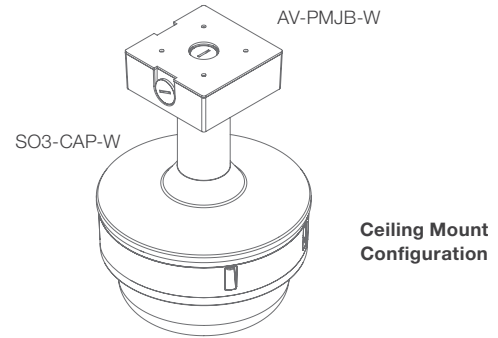
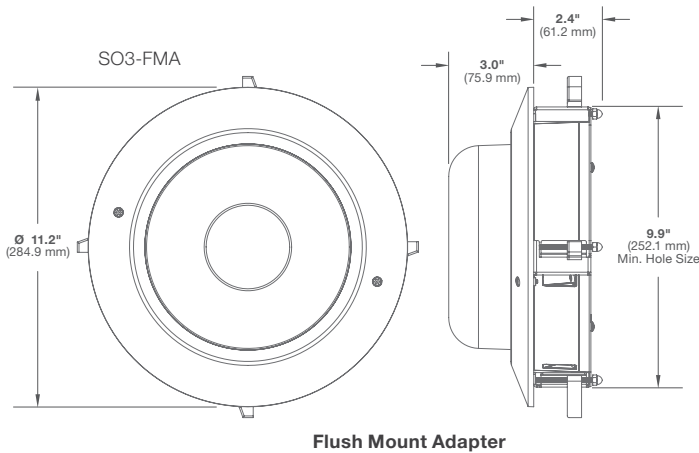
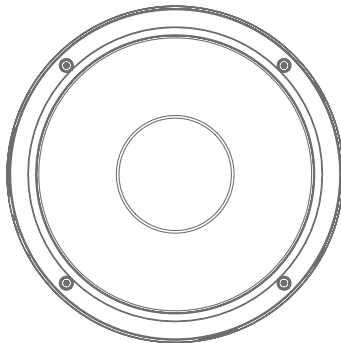
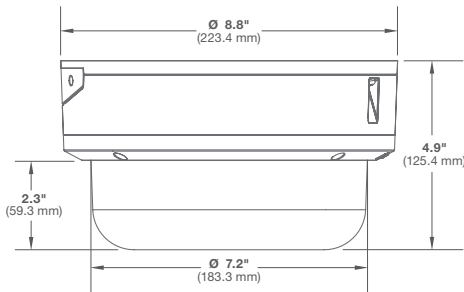
Streaming	Two-way
Compression	G.711 PCM 8 kHz
Input/Output	Line in***/ Line output

* Maximum with digital WDR
 ** Maximum with H.264 compression
 *** Requires Amplification

Mechanical

Casing	Die-cast aluminum chassis with polycarbonate dome bubble	
	IP66 weather proof standard	
	Impact resistant, IK-10 rated	
Gimbal	Remotely adjustable, 3-axis w/360° pan, 135° tilt	
Dimensions <i>(See Dimensions)</i>	Unit	Ø 8.8" (223.4mm) x 4.9" H (125.4mm)
	Bubble Only	Ø 7.2" (183.3mm) x 2.3" H (59.3mm)
	Packaged	11.1" W (281mm) x 11.1" L (281mm) x 7.4" H (188mm)
Weight	Unit	5.2lbs (2.36kg)
	Packaged	5.9lbs (2.68kg)
On Board Storage	MicroSDXC slot up to 256GB (card not included)	
Body Color	Arecont Vision® White (Pantone® Cool Gray 1C)	

Dimensions



See Next Page for Ordering Information

ConteraIP® Omni LX Remote Setup Megapixel Cameras Ordering Information



Configurations



Omni LX Remote Setup

Model Numbers

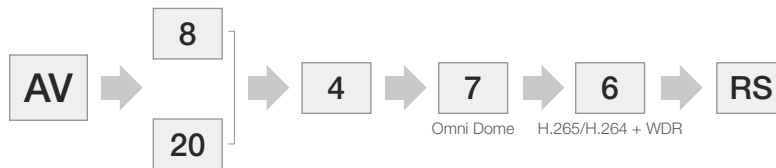
8MP	AV8476RS	WDR
20MP	AV20476RS	WDR

Accessories (Sold Separately)

AV-1AK	ConteraIP® Optional Audio Kit
AV-CRMA-W	Corner Mount Adapter (Arecont Vision® White)
AV-JBA-W	Standard Junction Box (Arecont Vision® White)
AV-PMA-W	Pole Mount Adapter (Arecont Vision® White)
AV-PMJB-W	Pendant Mount Bracket with Standard Junction Box (Arecont Vision® White) (Fits Cap 1.5" NPT, Box Fits 3/4" NPT)
AV-WMJB-W	Wall Mount Bracket with Standard Junction Box (Arecont Vision® White) (Fits Cap 1.5" NPT, Box Fits 3/4" NPT)
SO3-CAP-W	Cap for ConteraIP® Omni LX RS (Arecont Vision® White)
SO3-FMA	Flush Mount Adapter for ConteraIP® Omni LX RS (Arecont Vision® White)

Create Your Model (Example: AV20476RS)

Megapixel Resolution Generation Body Type Compression Remote Setup



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Rev 001.006



ConteralP® MicroDome® Duo LX Megapixel Camera

4, 10, or 16 Megapixel (MP) H.265/H.264 All-in-One Remote Setup Omni-Directional User-Configurable Multi-Sensor True Day/Night Indoor/Outdoor Dome IP Cameras with SNAPstream+™ (Smart Noise Adaptation and Processing), WDR (Wide Dynamic Range), and NightView™ Models

H.265



The ConteralP MicroDome Duo LX features twin multi-megapixel cameras in a compact housing, and is ideal for a variety of professional indoor/outdoor surveillance requirements. Applications include coverage of a hallway or walkway, monitoring POS terminals or ATMs, or for viewing of a single wide area or two distinct regions.

ConteralP MicroDome Duo LX is available with a choice of 4-, 10-, or 16-megapixel (MP) resolutions. These cameras provide an all-in-one solution for capturing wide area video surveillance while maximizing the field-of-view and reducing the total number of cameras required saving installers time and end users money.

The ConteralP MicroDome Duo LX is ideal for applications with challenging lighting conditions regardless the time of day, supported by dual day/night mechanical IR cut filters. For clear color images in low-light, NightView offers strong low-light sensitivity for capturing details in extremely poor-lit scenes. Power can be supplied via a single PoE (IEEE 802.3af) compliant network cable or via an 12–48V DC/24V AC power supply.

The installer-friendly ConteralP MicroDome Duo LX enclosure shortens the installation process. ConteralP MicroDome Duo LX is designed for demanding environments. Certified to rigorous dust and water tests, the camera carries an IP66 rating. The rugged dome housing is IK-10 rated to withstand the equivalent of 55 kg (120 lbs) of force for vandal-prone applications.

AV Costar™ was the first to bring H.264 to the mainstream market and recently developed SNAPstream™ (Smart Noise Adaptation and Processing) technology for reducing bandwidth without impacting image quality. Today we are proud to offer our next generation H.265 with SNAPstream+ smart codec capable of delivering high quality video while saving over 50% of the data rate to reduce or prevent strain on the network.

The ConteralP MicroDome Duo LX is ONVIF (Open Network Video Interface Forum) Profile S, G, and T compliant, providing interoperability between network video products regardless of manufacturer.

Interchangeable Lenses with Remote Focus Module

SNAPstream+ Technology

Hallway Capable

Wide Dynamic Range

True Day/Night with IR Cut Filter

NightView™

Ultra Low Profile Design

3-Axis Gimbal

Impact / Weather Resistant IK-10 and IP66 Rated

Tri-Encoder H.265/H.264/MJPEG

Series Features

- 4MP, 10MP, and 16MP Models
- Remote Focus
- Easily Adjustable 3-Axis Gimbal
- Multiple Lens Options in a Single Camera Housing
- SNAPstream+ Advanced Compression Algorithm Reduces Bandwidth without Impacting Image Quality
- NightView for Strong Low Light Performance
- True Day/Night Functionality with Mechanical IR Cut Filter
- On-Screen Display (OSD)
- WDR at Full Resolution: See Clearly in Shaded and Bright Light Conditions Simultaneously
- Privacy Mask, Motion Detection, Bit Rate Control, Multi-Streaming, and Multicasting
- Triple Encoder: H.265/H.264/MJPEG
- Network Protocols Include SNMP, HTTPS, IPv6, DHCP, 802.1x, and More
- All-in-One H.265/H.264 Total PoE Solution PoE and Auxiliary Power: 12V-48V DC/24V AC
- MicroSDXC Card Slot for Onboard Storage
- Ultra Discrete, Low-Profile Housing
- Outdoor Rated IP66 and IK-10 Impact-Resistant Housing

Camera Imaging Specifications

Model		AV4856DN	AV10856DN	AV16856DN			
Image Sensor (CMOS)		4MP (1080p x 2) CMOS Progressive Sensor	10MP (5MP x 2) CMOS Progressive Sensor	16MP (8MP x 2) CMOS Progressive Sensor			
Optical Format		1/2.8"	1/2.8"	1/2.8"			
Pixel Pitch		2.9µm	2.0µm	1.45µm			
Minimum Illumination	Color (Day Mode)	0.04 Lux	0.10 Lux	0.15 Lux			
	B/W (Night Mode)	0.004 Lux	0.010 Lux	0.015 Lux			
Full FOV Resolution		Total	3840 H x 1080 V	Total	5184 H x 1944 V	Total	7680 H x 2160 V
		Per Sensor	1920 H x 1080 V	Per Sensor	2592 H x 1944 V	Per Sensor	3840 H x 2160 V
Dynamic Range		Up to 100dB*		Up to 100dB*		Up to 100dB*	
Frame Rates**	At Max Resolution	30fps (4MP)		30fps (10MP)		15fps (16MP)	
	Multi-Stream	Up to 30fps (4MP) + 30fps (4MP)		Up to 30fps (10MP) + 10fps (10MP)		Up to 15fps (16MP) + 10fps (16MP)	
		Up to 30fps (4MP) + 30fps (4MP) + 30fps (1.8MP)		Up to 30fps (10MP) + 10fps (10MP) + 30fps (2.4MP) Up to 30fps (6MP) + 30fps (6MP) + 30fps (0.6MP)		Up to 15fps (8MP) + 10fps (8MP) + 15fps (1.8MP) Up to 15fps (8MP) + 15fps (5MP) + 15fps (1.8MP)	
Lens (x2)	2.8mm Lens Option (-28 Models)	2.8mm, F2.0, H-FOV = 106.7°		2.8mm, F2.0, H-FOV = 98°		2.8mm, F1.6, H-FOV = 106.7°	

Programmability

Optics	M12 lens and remote focus module	
Low-Light Performance	NightView technology	
Programmable Shutter Speed	Auto/manual 0.1 ms ~ 500ms	
Motion Detection	Real-time, 1024 detection zones	
Privacy Masking	Unlimited	
Backlight Compensation	Auto	
White Balance Mode	Auto/manual	
Gain Control	Auto	
Flicker Control	5Hz-255Hz adjustable	
Scaling (Per Sensor)	4MP	1920x1080, 1280x960, 1280x720, 960x540, 800x600, 640x480, 640x360
	10MP	2592x1944, 2560x1440, 2304x1296, 2048x1536, 1920x1080, 1600x1200, 1296x972, 1280x960, 1280x720, 800x600, 640x480
	16MP	3840x2160, 2592x1944, 2560x1440, 2048x1536, 1920x1080, 1600x1200, 1296x972, 1280x960, 1280x720, 800x600, 640x480, 640x360
Wide Dynamic Range	Adjustment between WDR and LDR modes	
Efficiency	SNAPstream+ (Smart Noise Adaptation and Processing)	
	Bit rate and bandwidth limitation control	
Miscellaneous	Programmable brightness, contrast, sharpness, saturation, hue	
Password	16-digit ASCII character password	
On-Screen Display (OSD)	Time/date/camera name/custom text	

Compliance

Industry Standard	ONVIF Profile S, G, and T conformant
Listings	UL60950-1, E489591
FCC Compliance	47 CFR 15 Class A
Environmental	RoHS, REACH, WEEE
Markings	CE: EN55032 Class A, EN55035, EN61000-3-2, EN61000-3-3
Mechanical	IK-10 (EN62262), IP66 (EN60529)

Data Transmission

Compression Type	H.265/H.264 (MPEG-4, Part 10)/Motion JPEG
	21 levels of quality
Bit Rate Control	64K-8000K
Smart Codec	Smart GOP/Smart ROI
Network Protocols	SNMP, HTTP, HTTPS, IPv6, IPv4, SSL, TCP/IP, UPnP, UDP, RTCP, RTSP, RTP, SMTP, NTP, DHCP, FTP, 802.1x, QoS, DDNS, Zero Configure
Network Interface	10/100/1000Mbps Ethernet, RJ45
Max Camera Bandwidth	20Mbps (10Mbps per sensor)
Multi-Streaming	2 x H.265/H.264 stream, 1 x M-JPEG stream (per sensor)
Users	Live Viewing/Administrator for up to 10 clients

Event Management

Event Trigger	Motion detection, tampering detection, alarm in
Notifications	Send a message via e-mail/FTP/NAS, SD Card Recording, Record JPG/MP4

Environmental

Operating Temperature	-40°C (-40°F) to +50°C (122°F)
Humidity	0% to 90% (non-condensing)
Storage Temperature	-40°C (-40°F) to +60°C (140°F)

Electrical

Alarm Input/Output	1 input (wet contact)/1 output (wet contact)
Power Over Ethernet	PoE IEEE 802.3af, Class 3
Auxiliary Power	12-48V DC, 24V AC
Power Consumption	10.5W max

Audio Electrical

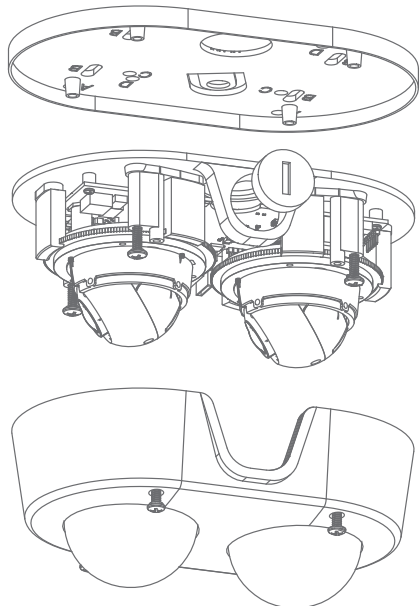
Streaming	Two-way
Compression	G.711 PCM 8 kHz
Input/Output	Line in***/ Line output

* Maximum with digital WDR
 ** Maximum with H.264 compression
 *** Requires Amplification

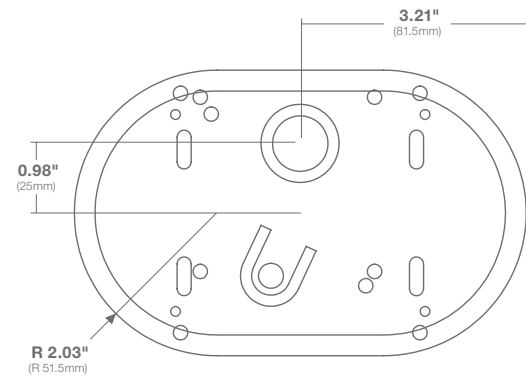
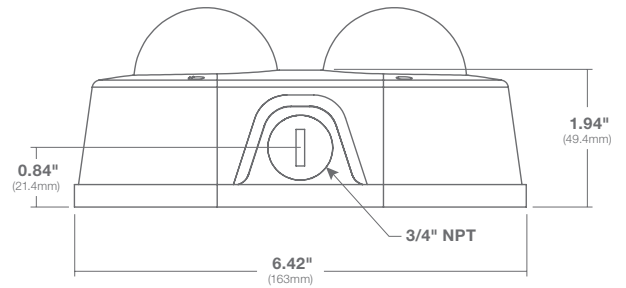
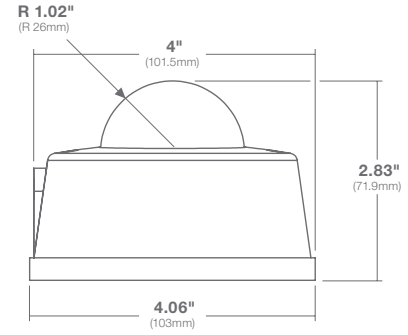
Mechanical

Casing	Die-cast aluminum chassis with polycarbonate dome bubble	
	IP66 weather proof standard	
	Impact resistant, IK-10 rated	
Mount	Mount plate with electrical box adapter holes (included)	
Gimbal	Easily adjustable, 3-axis w/360° pan, 90° tilt, and 360° z-axis	
Dimensions <i>(See Dimensions)</i>	Unit	2.83" H (71.9mm) x 4.06" W (103mm) x 6.42" L (163mm)
	Packaged	3.74" H (95mm) x 4.72" W (120mm) x 7.09" L (180mm)
Weight	Unit	2.2lbs (1.0kg)
	Packaged	2.6lbs (1.2kg)
On Board Storage	MicroSDXC slot up to 256GB (card not included)	
Body Color	AV Costar White (Pantone® Cool Gray 1C)	

Quick Installation



Dimensions



See Next Page for Ordering Information



Configurations



MicroDome Duo

Model Numbers

4MP	AV4856DN-28	WDR
	AV4856DN-NL	WDR
10MP	AV10856DN-28	WDR
	AV10856DN-NL	WDR
16MP	AV16856DN-28	WDR
	AV16856DN-NL	WDR

Lens Options (Sold Separately)

Model	Focal Length	Horizontal Field of View		
		1080p	5MP	8MP
MPM2.4	2.4mm	135°	126°	135°
MPM2.8 ¹	2.8mm	106.7°	98°	106.7°
MPM4.0A ²	4mm	74.7°	68.6°	74.7°
MPM6.0 ²	6mm	49.8°	45.7°	49.8°
MPM8.0 ²	8mm	37.3°	34.3°	37.3°
MPM12.0A ²	12mm	24.9°	22.9°	24.9°
MPM16.0 ³	16mm	18.7°	17.2°	18.7°

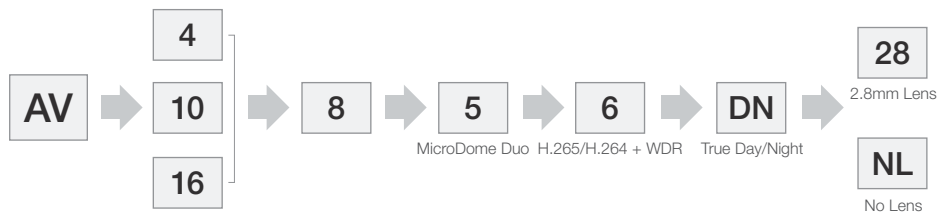
- ¹ MPM2.8 (2.8mm) is the default lens for -28 models
- ² Requires two spacers on focus module (included with lens)
- ³ Requires a spacer on focus module (included with lens)

Accessories (Sold Separately)

AV-1AK	ConteraIP Optional Audio Kit
AV-CRMA-W	Corner Mount Adapter (AV Costar White)
AV-JBA-W	Standard Junction Box (AV Costar White)
AV-PMA-W	Pole Mount Adapter (AV Costar White)
MDD-CMT-W	Pendant Mount and Cap with 1/2" NPT Standard for ConteraIP MicroDome Duo LX (AV Costar White)
MDD-WMT-W	Wall Mount and Cap with 1/2" NPT Standard for ConteraIP MicroDome Duo LX (AV Costar White)
MDD-FMA	Flush Mount Adapter for ConteraIP MicroDome Duo LX (White)

Create Your Model (Example: AV16856DN-28)

Megapixel Resolution Generation Body Type Compression True Day/Night Lens


























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Rev 001.002



Contera® Quick Guide Line Card

Picture	Part Number	Description
Cameras		
ConteraIP®		
ConteraIP® Omni LX Remote Setup		
	AV8476RS	8MP, H.265/H.264, Multiple Configurable Streams, 3.3-6.6mm, D/N, Up to 30fps per Channel, PoE+, IP66, Indoor/Outdoor, SNAPstream+™, WDR™, NightView™, SDXC Card, Two-Way Audio Support, Remote Setup
	AV20476RS	20MP, H.265/H.264, Multiple Configurable Streams, 3.3-6.6mm, D/N, Up to 15fps per Channel, PoE+, IP66, Indoor/Outdoor, SNAPstream+™, WDR™, NightView™, SDXC Card, Two-Way Audio Support, Remote Setup
ConteraIP® Outdoor Dome EX		
	AV5456PMIR-S	5MP, H.265/H.264, Multiple Configurable Streams, 2.7-12mm/P-Iris, D/N, 30fps, PoE, IP66, Indoor/Outdoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR, SDXC Card, Two-Way Audio Support, Video Analytics
ConteraIP® Bullet EX		
	AV5426PMIR-S	5MP, H.265/H.264, Multiple Configurable Streams, 2.7-12mm/P-Iris, D/N, 30fps, PoE, IP66, Indoor/Outdoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR, SDXC Card, Two-Way Audio Support, Video Analytics
ConteraIP® Panoramic		
	AV08CPD-118	8MP, H.265/H.264, Multiple Configurable Streams, D/N, Up to 30fps per Channel, PoE+, IP66, Indoor/Outdoor, 180°, SNAPstream+™, Enhanced WDR™, NightView™, IR LEDs, SDXC Card, Two-Way Audio Support
	AV20CPD-118	20MP, H.265/H.264, Multiple Configurable Streams, D/N, Up to 30fps per Channel, PoE+, IP66, Indoor/Outdoor, 180°, SNAPstream+™, Enhanced WDR™, NightView™, IR LEDs, SDXC Card, Two-Way Audio Support
ConteraIP® Bullet		
	AV02CLB-100	1080p, H.265/H.264, Multiple Configurable Streams, 2.7-12mm/P-Iris, D/N, 30fps, PoE, IP66, Indoor/Outdoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR, SDXC Card, Two-Way Audio Support
	AV05CLB-100	5MP, H.265/H.264, Multiple Configurable Streams, 2.7-12mm/P-Iris, D/N, 30fps, PoE, IP66, Indoor/Outdoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR, SDXC Card, Two-Way Audio Support
ConteraIP® Outdoor Dome		
	AV02CLD-100	1080p, H.265/H.264, Multiple Configurable Streams, 2.7-12mm/P-Iris, D/N, 30fps, PoE, IP66, Indoor/Outdoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR, SDXC Card, Two-Way Audio Support
	AV05CLD-100	5MP, H.265/H.264, Multiple Configurable Streams, 2.7-12mm/P-Iris, D/N, 30fps, PoE, IP66, Indoor/Outdoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR, SDXC Card, Two-Way Audio Support
ConteraIP® Micro Bullet		
	AV02CMB-100	1080p, H.265/H.264, Multiple Configurable Streams, 3.6mm, D/N, 30fps, PoE, IP66, Indoor/Outdoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR
	AV05CMB-100	5MP, H.265/H.264, Multiple Configurable Streams, 3.6mm, D/N, 30fps, PoE, IP66, Indoor/Outdoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR
ConteraIP® Indoor Dome		
	AV02CID-100	1080p, H.265/H.264, Multiple Configurable Streams, 2.7-13.5mm, D/N, 30fps, PoE, Indoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR, SDXC Card
	AV05CID-100	5MP, H.265/H.264, Multiple Configurable Streams, 2.7-13.5mm, D/N, 30fps, PoE, Indoor, SNAPstream+™, Enhanced WDR™, NightView™, Smart IR, SDXC Card
ConteraIP® Fisheye		
	AV12CPD-236	12MP, H.265/H.264, Multiple Configurable Streams, 1.8mm F2.4 Fisheye, D/N, 15fps, PoE, Indoor/Outdoor, SNAPstream+™, WDR, NightView™, Smart IR, SDXC Card
Accessories		
	AV-CADVA1	Enables Optional Video Analytic Behaviors on ConteraIP EX Cameras
	AV-CRMA-W	Corner Mount Adapter for ConteraIP Omni LX RS, Panoramic, Fisheye, Bullet & Outdoor Dome Cameras
	AV-EBAS-W	Square Electrical Box Adapter for ConteraIP Panoramic, Micro Bullet & Bullet Cameras
	AV-JBA-W	Junction Box Adapter for ConteraIP Bullet Camera
	AV-PMA-W	Pole Mount Adapter for ConteraIP Omni LX RS, Panoramic, Fisheye, Bullet & Outdoor Dome Cameras
	AV-PMJB-W	Pendant Mount Bracket with Junction Box for CF-CAP-W, CORS-CAP-W, CP-CAP-W & MD-CAP-W Mounting Caps
	AV-WMJB-W	Wall Mount Bracket with Junction Box for CF-CAP-W, CORS-CAP-W, CP-CAP-W & MD-CAP-W Mounting Caps
	CF-CAP-W	Mounting Cap for ConteraIP Fisheye Camera
	CID-CMT-W	Pendant Mount with Junction Box & Mounting Cap for ConteraIP Indoor Dome Camera
	CID-WMT-W	Wall Mount with Junction Box & Mounting Cap for ConteraIP Indoor Dome Camera
	SO3-CAP-W	Mounting Cap for ConteraIP Omni LX RS Camera
	CP-CAP-W	Mounting Cap for ConteraIP Panoramic Camera
	MCB-JBA-W	Round Junction Box Adapter for ConteraIP Micro Bullet Camera
	MD-CAP-W	Mounting Cap for ConteraIP Outdoor Dome Camera