Pump Station & Force Main Improvements Project
Gleneden Beach, Oregon

Submittal Transmittal No. *014*

Contractor: R&G Excavating, Inc.	Engineer: Harper Hour Peterson Righellis Inc	Date Received:	
Address: 39300 Montgomery Dr. Scio, OR 97374 (503) 394-2190 (503) 394-2169	Address: Ken Condit 205 SE Spokane Street, Suite 200 Portland, OR 97202	Checked By: Date Checked: Date Returned: Spec Section: 1st Submittal?	 X
Date Transmitted: 5/17/2021	Previous Transmittal Date:	ReSubmittal?	

No. Copies	Description	Manufacturer	Dwg or Data No.	Action Taken
electronic	Manual Transfer Switches	Cummins		

NO EXCEPTION TAKEN

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 THEIR WORK WITH THAT OF ALL OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF HIS WORK.

MFIA, INC.
CONSULTING ENGINEERS
2007 S.E. ASH STREET
PORTLAND, OR 97214

DATE: 6.8.21 **BY:** R Connell

Remarks:

NET-- No Exceptions Taken
MCN -- Make Corrections Noted
A&R -- Amend and Resubmit
R-- Rejected
NR -- Engineer's review not required

CONTRACTOR: Must certify one of the following statements pertaining to the transmittal or submittal sent for review:

__ The undersigned, acting on behalf of the Contractor, certifies that this submittal has been reviewed and is approved; products have been verified as being as specified, field measurements and field construction criteria have been or will be coordinated, and the submittal is in compliance with Contract Documents.

___ As the general contractor for this project we certify that the material or equipment contained in this submittal meets all the requirements specified except for the attached deviations.

Glinda Ireland, Operations Manager

Engineer Comments:

CUMMINS INC
4711 N Basin
Portland, OR 97217
971-280-0800

May 12th, 2021

Submittal for:
Gleneden Beach PS

Cummins Inc. Project No. 211478
PO No.: PO2103

Customer Requested Delivery Date:_____

Customer Requested Equipment Delivery Address:_____

_____

Contact Person & Phone # for Deliveries:_____

Prepared for:
Glinda Ireland
Gleneden Beach PS
Full Address undetermined

Phone No.: 503-394-2190

Fax No. :

Email

bids@rgexcavating.com

Customer Approval

□ Revise and Resubmit

□ Approved as Noted/Release for Production

□ Released for Production

By: _____ Dated:_____

Important:
1. By signing this submittal you're approving it as submitted unless noted.
2. Any change to the scope of supply may impact the current shipping schedule and the contract price, as such, Cummins Inc. can NOT accept any changes to the scope of supply within 60 Calendar days before shipment.
3. **Our Company policy states that "We can NOT order any materials or proceed with production without an approved and release submittal that includes a required ship date".**

Prepared by: Robinson Cantero
Office Number: 971-280-0800
Mobile Number: -
Fax Number: -
Email address: Robinson.cantero@cummins.com

May12h, 2021
Project Name:Gleneden Beach PS
Project Number: 211478

Dear: Glinda Ireland

Thank you for your order. The next step in the process is the submittals phase.
Attached please find the submittal, prepared by Robinson Cantero, the Project Manager assigned to your project. Please review the submittal and return it to him as soon as possible along with your approval and/or changes clearly indicated so we can continue to process your order.

Our company policy states we cannot order any materials or proceed with any production without an approved submittal returned from you along with requested delivery date.

Current lead time is approximately **16-18 Weeks** from submittal approval. Split shipments and drop shipments on equipment that do not need local upfit are possible, but requirements must be advised at the time of release.

Note: Requested delivery date is not a guarantee of delivery date. Leadtimes at time of release can vary due to market conditions and manufacturing production capacities. We will advise you of our closest delivery target to match your request within 1-2 weeks.

A Cummins Project Team has now been assigned to your project. Their names and contact info are listed below. For all issues your Project Manager, Robinson Cantero, will best be able to assist you.

Name	Title	Function	Phone	email
Chris Walhberg	Territory Manager	Sales	503-806-0322	christopher.c.Wahlberg@cummins.com
Robinson Cantero	Project Manager Portland	Prepares Submittals, handles all Project issues	971-280-0800	Robinson.cantero@cummins.com
Chris Walhberg	Territory Manager	Sales	503-307-7529	christopher.c.Wahlberg@cummins.com
Jenness Mann	PC	Project Coordinator	503-972-6646	jenness.mann@cummins.com
John McWilliams	Senior Application Engineer	Technical Resource for all projects	510-347-6673	john.l.mcwilliams@cummins.com
TBD	TBD	Schedules pre-inspect and S&T	TBD	TBD
Dan Lanske	Director of Sales Powergen	Director of Sales Power Gen	206-450-2383	dan lanske@cummins.com

Best regards,

Robinson Cantero
Cummins Inc.

May 12th, 2021
Project Name: Gleneden Beach PS
Project Number: **211478**
PO Number: **2103**

Summary Sheet

(Not for Construction, please refer to specific materials within submittal or call Cummins Inc. to double check values.)

Project Manager Robinson Cantero 971-280-0800

Major Equipment Shipping Weights and Dimensions

Equipment	Length (in)	Width (in)	Height (in)	Weight (lbs)	Color	Sources Drawing Number
C125 D6C	154	40	72	4500	Green	
Diesel Fuel Gallonage						
				-		
Total Genset Package						

Generator Set - Lug Information

Max. Breaker Amps	Wire (Cooper)	
	Quantity	Size
200A	1	350MCM

Automatic Transfer Switch - Lug Information

Amperage	Cable/Phase	Cable Size
225A ATS	1	300MCM

AC Power Supplies needed for Genset Accessories

Accessories	No. phases	Voltage	Wattage
Engine Oil Heater	1	120Vac	432
Alternator Heater	1	120Vac	276
Coolant Heater	1	120Vac	1000

*For genset 250kW and below refer to drawing 0333-0588 for reconnectable heater.

General Wiring Guidelines

Interconnection Wiring To Be # 14 AWG Stranded Wire Minimum. Ac and Dc Control Wires to Be Run In Separate Conduits

Battery Charger to Battery to Be Sized For Charger Output And length of run.

For AC Connections Use # 14 AWG or larger for lengths up to 40 Feet.

Use # 12 AWG or larger for lengths up to 50 Feet.

Use # 10 AWG or larger for lengths up to 100 Feet.

For DC Connections Use # 14 AWG or larger for lengths up to 100 Feet.

Paralleling load share cable to be 18 AWG 4 - conductor twisted shielded cable.
Modbus and PCCnet cable to be Belden model 9729 twisted shielded pair.
Echelon Lontalk network cable to be stranded CAT5.
We recommend running additional 20% spare wires for each circuit.
****REFER TO WIRING DIAGRAMS SUPPLIED WITH SUBMITTAL FOR SPECIFIC INFORMATION****

Special Requirements / Submittal Review Notes

Warranty Statement

Global Power Electronics

Transfer Switch

English
Original Instructions

1-2015

A029Y876 Issue D

Limited Warranty

Transfer Switch

This limited warranty applies to all Cummins Power Generation® branded Transfer Switches and associated accessories (hereinafter referred to as "Product").

This warranty covers any failures of the Product, under normal use and service, which result from a defect in material or factory workmanship.

Warranty Period:

The warranty start date is the date of commissioning†, demonstration or 18 months after factory ship date, whichever is sooner.

† Date of commissioning not to exceed date of Generator Set initial start-up.

Transfer Switch Coverage Duration:

The warranty coverage duration for Transfer Switches is defined in the table below for the different product families:

Product Family	Duration
GTEC, LT, LC, RST, OTEC	▪ 1 Year: Parts, Labor & Travel
RSS, RA, and other Power Transfer Devices††	▪ 2 Years: Parts, Labor & Travel
OT, OTPC, BTPC, OHPC, CHPC, PLT	▪ Years 0-2: Parts, Labor &Travel ▪ Years 3-5: Parts Only ▪ Years 6-10: Main Contacts Only

†† Devices manufactured by Cummins Power Generation that allow power transfer between two power sources.

Cummins Power Generation® Responsibilities:

In the event of a failure of the Product during the warranty period due to defects in material or workmanship, Cummins Power Generation® will only be responsible for the following costs:

- Parts and labor required to repair the Product as defined by coverage duration.
- Reasonable travel expenses to and from the Product site location as defined by coverage duration.

Owner Responsibilities:

The owner will be responsible for the following:

- Notifying Cummins Power Generation® distributor or dealer within 30 days of the discovery of failure.
- Installing, operating, commissioning and maintaining the Product in accordance with Cummins Power Generation®'s published policies and guidelines.
- Providing evidence for date of commissioning.
- Providing sufficient access to and reasonable ability to remove the Product from the installation in the event of a warrantable failure.

In addition, the owner will be responsible for:

- Incremental costs and expenses associated with Product removal and reinstallation resulting from non-standard installations.
- Costs associated with rental of power generating equipment used to replace the Product being repaired.
- Costs associated with labor overtime and premium shipping requested by the owner.
- All downtime expenses, fines, all applicable taxes, and other losses resulting from a warrantable failure.

Limitations:

This limited warranty does not cover Product failures resulting from:

- Inappropriate use relative to designated power rating.
- Inappropriate use relative to application guidelines.
- Non-conformance to applicable industry standards for installation
- Normal wear and tear.
- Improper and/or unauthorized installation.
- Negligence, accidents or misuse.
- Lack of maintenance or unauthorized repair.
- Noncompliance with any Cummins Power Generation® published guideline or policy.
- Improper storage before and after commissioning.
- Owner's delay in making Product available after notification of potential Product problem.
- Replacement parts and accessories not authorized by Cummins Power Generation®.
- Owner or operator abuse or neglect such as: late servicing and maintenance and improper storage.
- Damage to parts, fixtures, housings, attachments and accessory items that are not part of the transfer switch or paralleling system.

This limited warranty does not cover costs resulting from:

- Difficulty in gaining access to the Product.
- Damage to customer property.

Please contact your local Cummins Power Generation® Distributor for clarification concerning these limitations.

CUMMINS POWER GENERATION® RIGHT TO FAILED COMPONENTS:

Failed components claimed under warranty remain the property of Cummins Power Generation®. Cummins Power Generation® has the right to reclaim any failed component that has been replaced under warranty.

Extended Warranty:

Cummins Power Generation® offers several levels of Extended Warranty Coverage. Please contact your local Cummins Power Generation ® Distributor for details.

www.power.cummins.com

THE WARRANTIES SET FORTH HEREIN ARE THE SOLE WARRANTIES MADE BY CUMMINS POWER GENERATION ® IN REGARD TO THE PRODUCT. CUMMINS POWER GENERATION® MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT IS CUMMINS POWER GENERATION® LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This limited warranty shall be enforced to the maximum extent permitted by applicable law. This limited warranty gives the owner specific rights that may vary from state to state or from jurisdiction to jurisdiction.

Product Model Number:_____

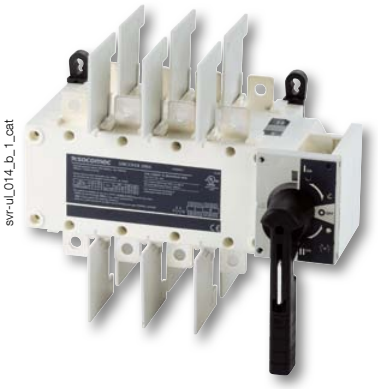
Product Serial Number:_____

Date in Service:_____

SIRCOVER UL1008

Manually operated Transfer Switching Equipment

from 100 to 1200 A



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Function

SIRCOVER UL1008/98 are heavy duty manual transfer switches. They ensure switching transfer of sources or transfer of two low voltage circuits on load as well as their safe disconnection.

These switches are extremely durable and are tested and approved for use in the most demanding applications, such as resitive load or total system applications.

Advantages

Stable positions

SIRCOVERs have three stable positions which are not affected by voltage drops or vibrations, thus protecting your load against network interference.

Compact design

The SIRCOVER are based on a back-to-back switching technology, providing a compact solution.

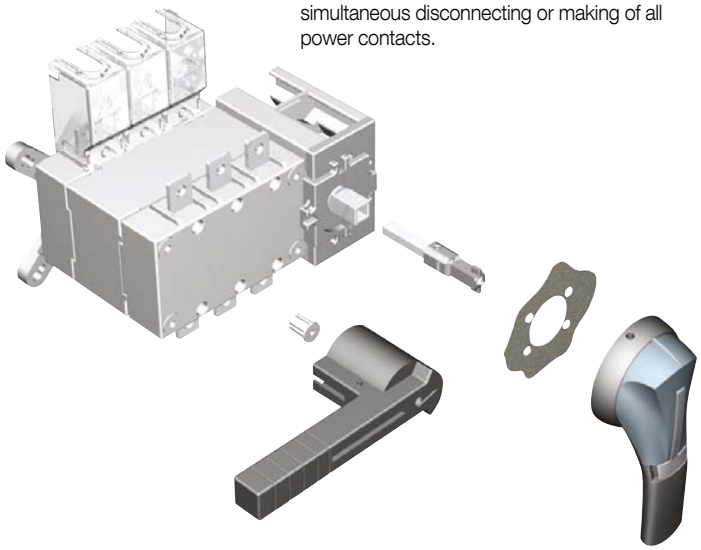
On-load switching

The SIRCOVER UL enables secure and reliable switching, without the need for pre-breaking upstream.

Reliability

The SIRCOVER has double breaking per pole acheived through its sliding bar contacts system.

The quick opening and rapid closure provides simultaneous disconnecting or making of all power contacts.



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The solution for

- Manufacturing industry
- Power distribution
- Domestic

Strong points

- Stable positions
- Compact design
- On-load switching
- Reliability

Conformity to standards

- UL 1008, Guide WPYV, file 317092
- UL 98, Guide WHTY, file 201138
- CSA 22.2#4, Class 4651-02

UL 98 and CSA from 600-1200 A with 100-400 A on request with a specific reference.

Enclosed solutions

SOCOMEC offers a range of pre-equipped enclosures in steel or polyester.

Enclosed ***SIRCOVER***

socomec Innovative Power Solutions

Typical application

The SIRCOVER UL 1008 range provides safe transfer and disconnection at all levels within your LV installation.
They can be used for changing motor phase for rotation control or equipmement grounding as well.

Normal power supply to genset transfer
The source transfer will be operated safely even under on-load or over-load conditions

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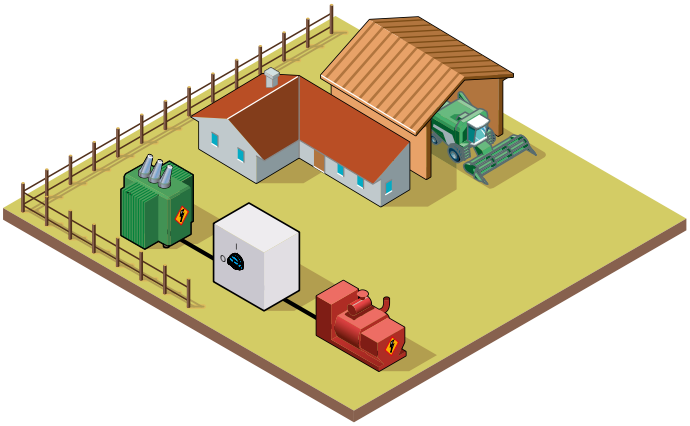

SOCOMEC solution up to 1200 A

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UL 1008 Manual Transfer Switch
From **100 to 400 A** for resistive and total systems applications.
UL 98 versions on request

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UL 1008 and UL 98 Manual Transfer Switch
From **600 to 1200 A** for resistive and total systems applications.
Has UL 98/CSA 22.2#4 certification

IEC solution up to 3200 A

The SIRCOVER UL 1008 is part of a large range that includes an IEC products of standalone or enclosed manual transfer switches and manual bypass switches with overlapping options.
Contact us for further information on our complete range.

References

SIRCOVER UL 1008

Rating (A)	Frame size	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars	Auxiliary contacts	Terminal screens
100 A	B4	2 P	4150 **2012**	Black 4199 **4012**	S2 type Black I - 0 - II 4, 4X 142D **2113** Padlockable in all 3 positions 142D **2813**	S2 type 200 mm 7.9 inches 1400 **1020** 320 mm 12.6 inches 1400 **1032** 400 mm 15.7 inches 1400 **1040**	2 P 4159 **2021** 3 P 4159 **3021** 4 P 4159 **4021**	Contact NO/NC 4159 0021 Low level 4159 **0022**	2 / 3 P 4158 **3021** 4 P 4158 **4021**
		3 P	4150 **3012**						
		4 P	4150 **4012**						
200 A		2 P	4150 **2022**						
		3 P	4150 **3022**						
		4 P	4150 **4022**						
260 A	B5	2 P	4150 **2026**		S2 type Black I - 0 - II 4, 4X 142D **2113** S3 type Black I - 0 - II 4, 4X 143D **3113**	S3, S4 type 200 mm 7.9 inches 1401 **1520** 320 mm 12.6 inches 1401 **1532** 400 mm 15.7 inches 1401 **1540**	2 P 4159 **2041** 3 P 4159 **3041** 4 P 4159 **4041**		2 / 3 P 4158 **3041** 4 P 4158 **4041**
		3 P	4150 **3026**						
		4 P	4150 **4026**						
400 A		2 P	4150 **2042**						
		3 P	4150 **3042**						
		4 P	4150 **4042**						
600 A	B6	3 P	4150 **3060**	Black 4199 **7012**	S3 type Black I - 0 - II 4, 4X 143D **3113**		3 P 4159 **3063** 4 P 4159 **4063**		3 P 1609 **3063** 4 P 1609 **4063**
		4 P	4150 **4060**						
800 A	B7	3 P	4150 **3080**	Black 4199 **7062**	S4 type Black I - 0 - II 4, 4X 144D **3813**(1)		3 P 4159 **3080** 4 P 4159 **4080**	Contact NO/NC as standard	3 P 1609 **3080** 4 P 1609 **4080**
		4 P	4150 **4080**						
1200 A		3 P	4150 **3120**						
		4 P	4150 **4120**						

Accessories

Direct handle

Rating (A)	Type	Colour	Handle type	Reference
100 … 400	B3	Black	1 lever	4199 **4012**
600	C2	Black	2 lever	4199 **7012**
800 … 1200	V1	Metal	2 lever	4199 **7062**

B3 type *C2 type* *V1 type*

External handle

Rating (A)	Handle type	Colour	Nema type	Lockable in 3 positions	Reference
100 ... 200	S2	Black	4, 4X	no	142D **2113**
100 ... 200	S2	Red/Yellow	4, 4X	no	142E **2113**
100 ... 200	S2	Black	1, 3R, 12	no	142F **2113**
100 ... 200	S2	Red/Yellow	1, 3R, 12	no	142G **2113**
100 ... 200	S2	Black	4, 4X	yes	142D **2813**
100 ... 200	S2	Red/Yellow	4, 4X	yes	142E **2813**
100 ... 200	S2	Black	1, 3R, 12	yes	142F **2813**
100 ... 200	S2	Red/Yellow	1, 3R, 12	yes	142G **2813**
260 ... 600	S3	Black	4, 4X	no	143D **3113**
260 ... 600	S3	Red/Yellow	4, 4X	no	143E **3113**
260 ... 600	S3	Black	1, 3R, 12	no	143F **3113**
260 ... 600	S3	Red/Yellow	1, 3R, 12	no	143G **3113**
260 ... 600	S3	Black	4, 4X	yes	143D **3813**
260 ... 600	S3	Red/Yellow	4, 4X	yes	143E **3813**
260 ... 600	S3	Black	1, 3R, 12	yes	143F **3813**
260 ... 600	S3	Red/Yellow	1, 3R, 12	yes	143G **3813**
800 ... 1200	S4	Black	4, 4X	no	144D **3113**
800 ... 1200	S4	Black	1, 3R, 12	no	144E **3113**
800 ... 1200	S4	Black	1, 3R, 12	no	144E **3113**
800 ... 1200	S4	Red/Yellow	1, 3R, 12	no	144G **3113**
800 ... 1200	S4	Black	4, 4X	yes	144D **3813**
800 ... 1200	S4	Red/Yellow	4, 4X	yes	144E **3813**
800 ... 1200	S4	Black	1, 3R, 12	yes	144F **3813**
800 ... 1200	S4	Red/Yellow	1, 3R, 12	yes	144G **3813**
800 ... 1200	S5	Black	1, 3R, 12(1)	no	1453 **8113**
800 ... 1200	S5	Red/Yellow	1, 3R, 12(1)	no	1454 **8113**
800 ... 1200	V1	Black	1, 3R, 12(1)	no	4199 **7149**

(1) For 4, 4X please consult us.

Use

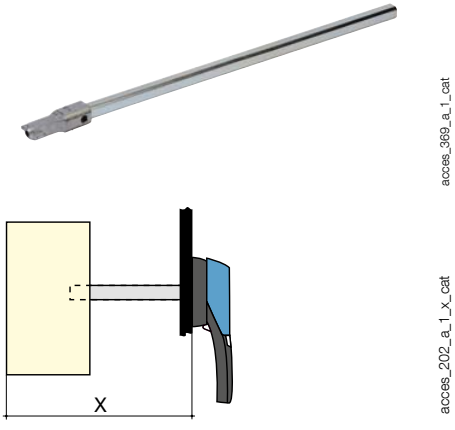
The handle interlocking function prevents the user from opening the door of the enclosure when the switch is in the "ON" position.

Opening the door when the switch is in the "ON" position is possible by defeating the interlocking function (not S5 and V handles) with the use of a tool (authorised persons only).

The interlocking function is restored when the door is re-closed.

Shaft for external handle

Rating (A)	Handle type	Length (in)	Length (mm)	Dimension (in)	Dimension (mm)	Reference
100 … 200	S2	7.9	200	10 … 14.3	254 … 362	1400 **1020**
100 … 200	S2	12.6	320	10 … 19	254 … 482	1400 **1032**
100 … 200	S2	15.7	400	10 … 22.1	254 … 562	1400 **1040**
260 … 400	S3	7.9	200	12 … 18.4	305 … 467	1401 **1520**
260 … 400	S3	12.6	320	12 … 23.1	305 … 587	1401 **1532**
260 … 400	S3	15.7	400	12 … 26.3	305 … 667	1401 **1540**
260 … 400	S3	7.9	200	20 … 23.4	508 … 594	1401 **1520**
260 … 400	S3	12.6	320	20 … 28.1	508 … 714	1401 **1532**
260 … 400	S3	15.7	400	20 … 31.3	508 … 794	1401 **1540**
800 … 1200	S4	7.9	200	20 … 23.4	508 … 594	1401 **1520**
800 … 1200	S4	12.6	320	20 … 28.1	508 … 714	1401 **1532**
800 … 1200	S4	15.7	400	20 … 31.3	508 … 794	1401 **1540**
800 … 1200	V1 / S5	12.6	320	20 … 28.1	508 … 714	4199 **3018**
800 … 1200	V1 / S5	15.7	400	20 … 31.3	508 … 794	4199 **3019**



Accessories (continued)

Bridging bars

Use

Creation of a common point, above or below the switch, between positions I and II.

Rating (A)	No. bridging bar	Reference
100 ... 200	2	4159 **2021**
100 ... 200	3	4159 **3021**
100 ... 200	4	4159 **4021**
260 ... 400	2	4159 **2041**
260 ... 400	3	4159 **3041**
260 ... 400	4	4159 **4041**
600	3	4159 **3063**
600	4	4159 **4063**
800 ... 1200	3	4159 **3080**
800 ... 1200	4	4159 **4080**

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Terminal protection screen

Use

Top or bottom protection against direct contact with terminals or connecting parts.

Rating (A)	No. of poles	Reference
100 ... 200	2P / 3P	4158 **3021**
100 ... 200	4 P	4158 **4021**
260 ... 400	2P / 3P	4158 **3041**
260 ... 400	4 P	4158 **4041**
600	6 P	1609 **3063**
600	4 P	1609 **4063**
800 ... 1200	3 P	1609 **3080**
800 ... 1200	4 P	1609 **4080**

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Auxiliary contacts

Use

Pre-break and signalisation of positions .
For low level ACs and other ACs contact us.

Electrical characteristics

A300.

NO/NC auxiliary contact

Rating (A)	Contact (s)	Reference
100 ... 400	NO/NC on position 1 and 2	4159 **0021**
100 ... 400	Low level NO/NC on position 1 and 2	4159 **0022**
600 ... 1200	NO/NC on position 1 and 2	included

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acces_065_a_1_cat

Terminal lugs

Use

Connection of bare copper cables onto the terminals (without lugs).

Rating (A)	Wires range	No wires per lug	Lugs per kit	Wires	Reference
100 ... 200	6 - 300MCM	1	2	Cu / Al	3954 **2020**
100 ... 200	6 - 300MCM	1	3	Cu / Al	3954 **3020**
100 ... 200	6 - 300MCM	1	4	Cu / Al	3954 **4020**
260 ... 400	4 - 600MCM	1	2	Cu / Al	3954 **2040**
260 ... 400	4 - 600MCM	1	3	Cu / Al	3954 **3040**
260 ... 400	4 - 600MCM	1	4	Cu / Al	3954 **4040**
600	2x (#2 - 600MCM)	2	3	Cu / Al	3954 **3060**
600	2x (#2 - 600MCM)	2	4	Cu / Al	3954 **4060**
800 ... 1200(1)	2x 2x(#2 - 600MCM)	2	6	Cu / Al	3954 **3120**
800 ... 1200(1)	2x 2x(#2 - 600MCM)	2	8	Cu / Al	3954 **4120**

(1) To be used to connect 4 wires on one terminal. In such a case, 2 lugs are placed side-by-side on one terminal. Please refer to dimensions diagram

ul_032_a

socomec Innovative Power Solutions

Characteristics

Characteristics according to UL 1008

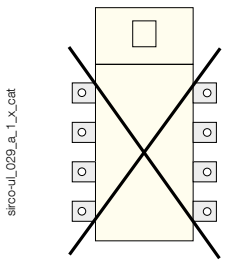
General use rating (A)	100 A	200 A	260 A	400 A	600 A	800 A	1200 A
Frame size	**B4**		**B5**		**B6**	**B7**	
Operation voltage 2 P - 3/4 P	240/600	240/600	240/600	240/600	-/600	-/600	-/600
Short circuit rating at 600 VAC with fuses (kA)							
Short circuit rating at 600 VAC (kA)	100	100	100	100	100	100	100
Type of fuse	J	J	J	J	L	L	L
Short circuit rating at 600 VAC with “Specific Circuit Breaker” (kA)							
Square D JJ breaker 250 A - 2 P 240 VAC - 3/4 P 480 VAC	65	65	-	-	-	-	-
Schneider Electric NSX-F 160 A - 3/4 P 480 VAC	35	-	-	-	-	-	-
Short circuit rating at 600 VAC with “Any Breaker” (kA)							
Short circuit rating (kA)	10	10	14	14	35	35	35
Short circuit capacity (ms)	25	25	50	50	50	50	50
Rated operational current							
240 VAC “Total System” (A)	100	200	260	400	400	700	700
240 VAC resistive load (A)	100	200	260	400	600	800	1200
480 VAC “Total System” (A)	100	100	260	400	350	600	600
480 VAC resistive load (A)	100	200	260	400	600	800	1200
600 VAC “Total System” (A)	100	100	200	200	-	-	-
600 VAC resistive load (A)	100	200	260	400	600	800	1200
Mechanical endurance							
Endurance (number of operating cycles)	6050	6050	6050	4050	3050	3050	3050
Connection terminals							
Min. connection section / AWG	#6	#6	#4 / 2 X 1 /0	#4 / 2 X 1 /0	2 x #2	2 x #2	4 x #2
Max. connection section / AWG	300MCM	300MCM	600MCM / 2 X 250MCM	600MCM / 2 X 250MCM	2x 600MCM	2x 600MCM	4 x 600MCM

Characteristics according to UL 98/CSA 22.2#4

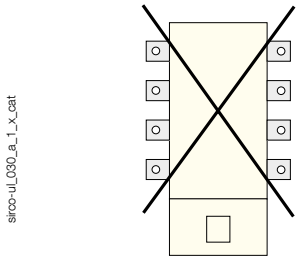
General use rating at 600 VAC and 250 VDC (A)	Specific reference upon request				600 A	800 A	1200 A
Frame size					**B6**	**B7**	
Short-circuit rating at 600 VAC (kA)	-	-	-	-	200	100	100
Type of fuse	-	-	-	-	J	L	L
Max. fuse rating (A)	-	-	-	-	600	800	1200
Max. motor, hp / FLA 3 ph motor max.							
220-240 VAC	-	-	-	-	200 / 480	-	-
440-480 VAC	-	-	-	-	400 / 477	-	-
600 VAC	-	-	-	-	500 / 472	-	-
Mechanical characteristics							
Endurance (number of operating cycles)	-	-	-	-	5000	3500	2500
Operating torque (lbs.in/Nm)	-	-	-	-	327.5/37	442.5/50	442.5/50
Auxiliary contacts							
Electrical characteristics	A300	A300	A300	A300	A300	A300	A300

Mounting orientation

100 to 400 A / B4 - B5

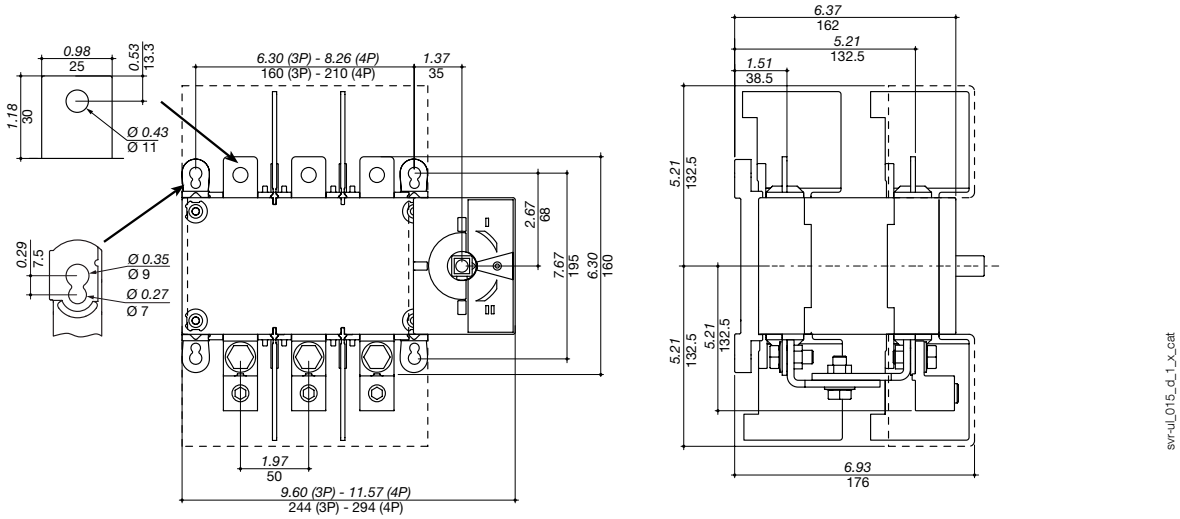


600 to 1200 A / B6 - B7

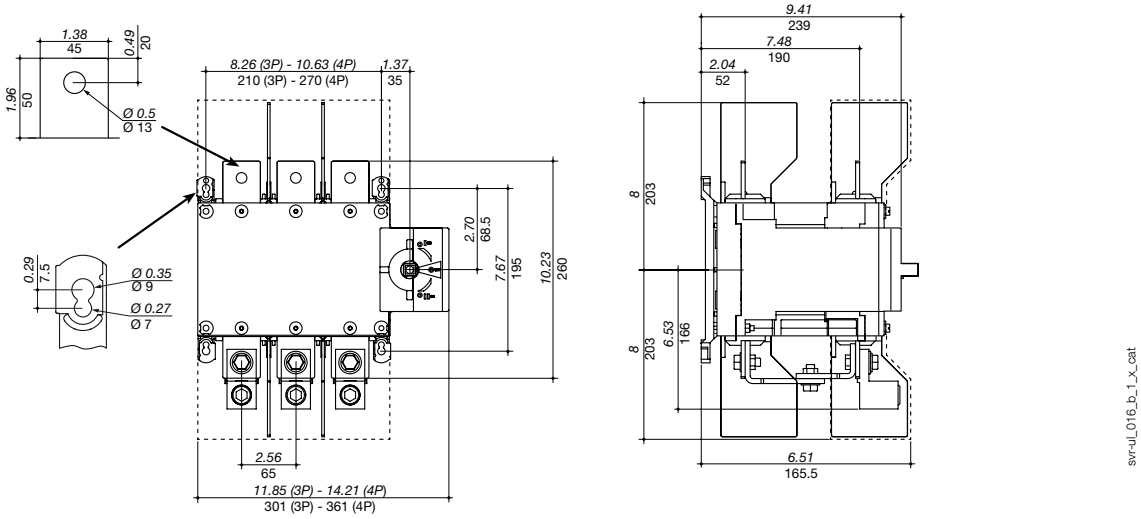


Dimensions (in/mm)

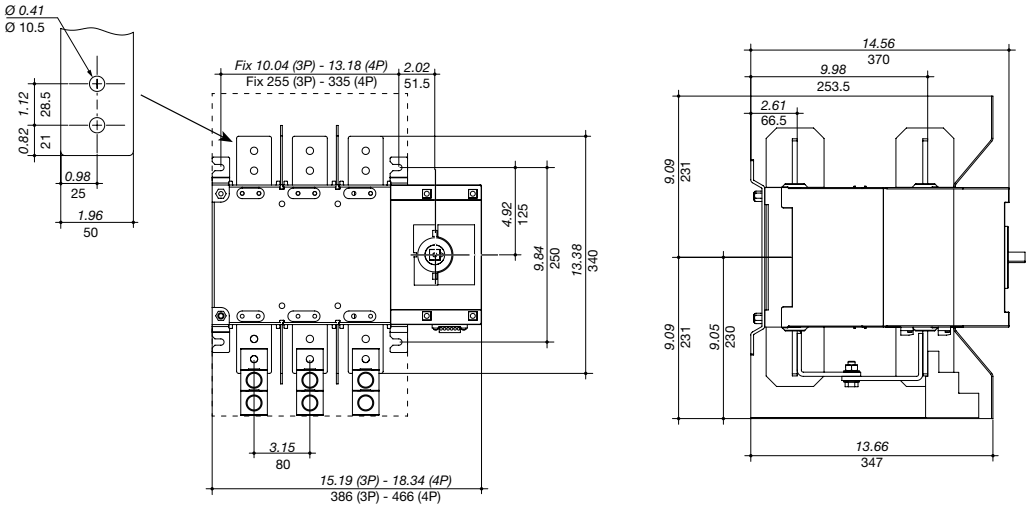
100 to 200 A / B4



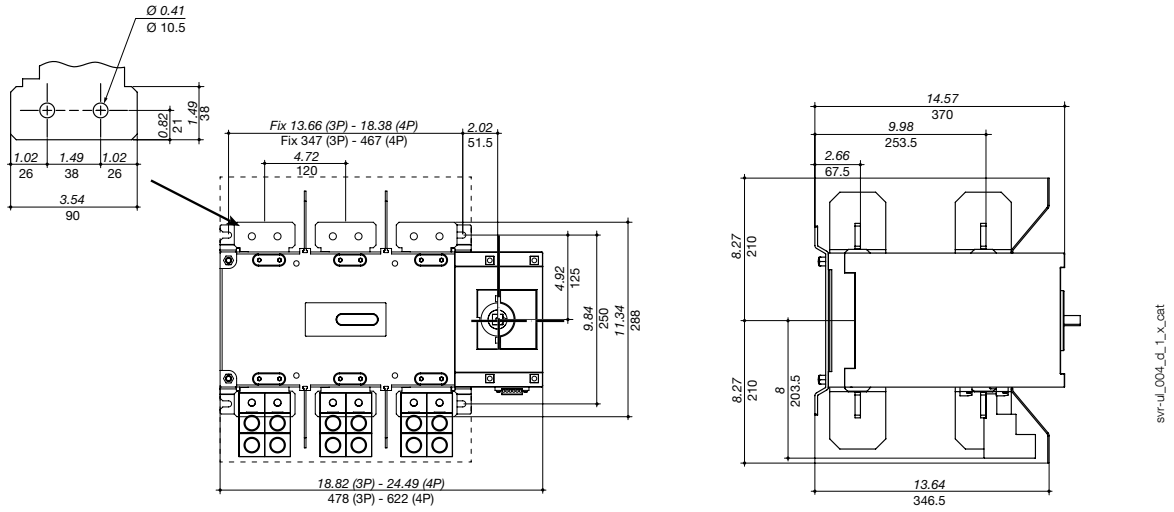
260 to 400 A / B5



600 A / B6

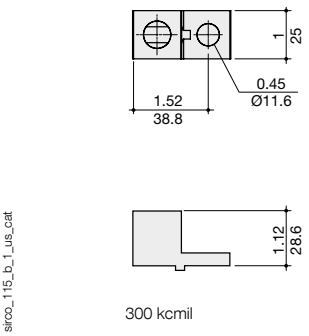


800 to 1200 A / B7

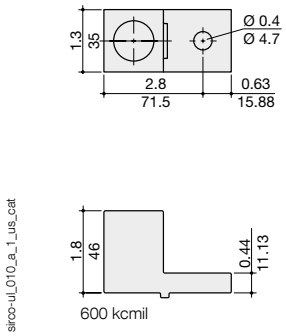


Terminal lugs (in/mm)

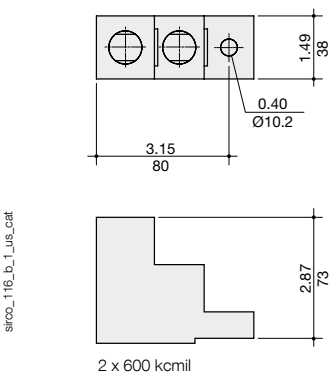
100 to 200 A / B4



260 to 400 A / B5

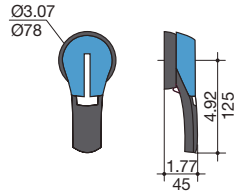
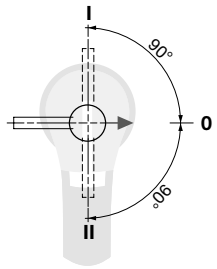
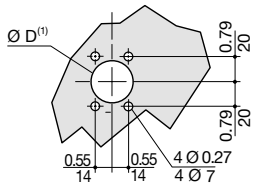


600 to 1200 A / B6 - B7

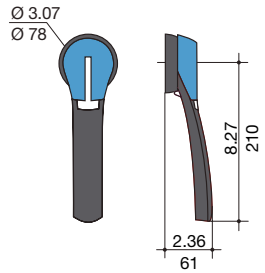
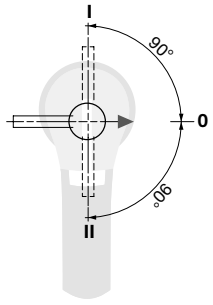
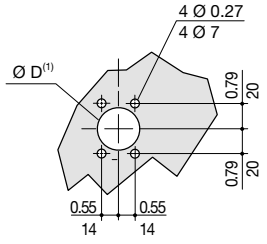


External handles dimensions (in/mm)

100 and 200 A / B4

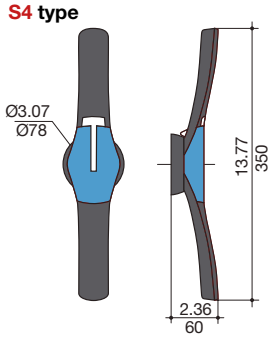
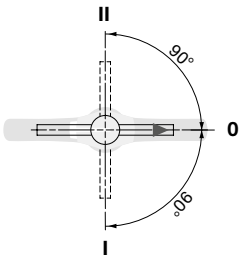
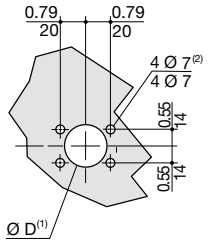
Handle type	Front operation Direction of operation	Door drilling
S2 type 		

260 and 600 A / B5 - B6

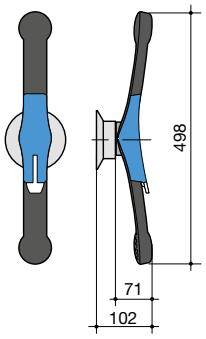
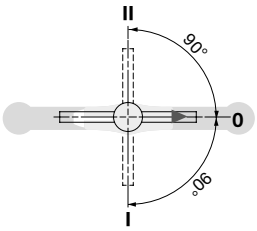
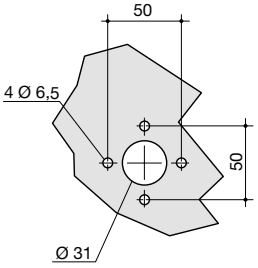
Handle type	Front operation Direction of operation	Door drilling
S3 type 		

External handles dimensions (in/mm) (continued)

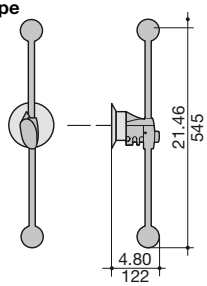
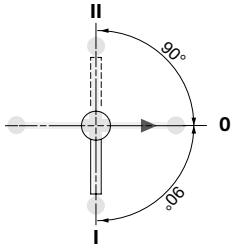
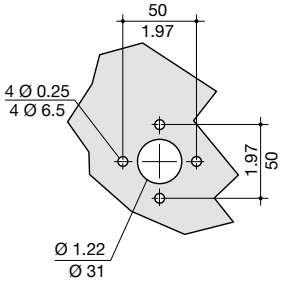
800 to 1200 A / B7

Handle type	Front operation Direction of operation	Door drilling
S4 type 		

poign_065_a_1_gb_cat

Handle type	Front operation Direction of operation	Door drilling
S5 type with V Escutcheon 		

poign_047_a_1_gb_cat

Handle type	Front operation Direction of operation	Door drilling
V1 type 		

poign_066_a_1_us_cat

Connection Cabinets

FFCC-A2 Series

The FFCC-A2 Series Connection Cabinets offer quick connection to a mobile generator (inlet) or load bank (outlet). They can be penetrated from the back or top to allow for facility wiring. These units are equipped with a manual transfer switch enabling switching to a mobile generator or load bank. Units can also be specified with a rotary disconnect. Units come complete with colour coded camlock receptacles allowing for easy connection. Assemblies are available with up to 1200A mains and are certified to cULus standards.

- **CRS Construction**
- **Type 3R Weatherproof Enclosure**
- **Fully Welded Construction**
- **Wall-Mount Design**
- **Certified to cULus Standards**
- **Manual Transfer Switch or Rotary Disconnect**
- **Dead Front Cover**
- **Colour Coded Camlock Receptacles**
- **Standard Mechanical Lugs Kit**
- **Angled Camlock Plate for Secure Connection**
- **Bottom Cable Access Door**
- **Door c/w 3 Pt. SS Pad-Lockable Handle**
- **Stainless Steel Hinges with Removable Pins**

Max Ratings

- **1200A**
- **600VAC**

Dimensions

- **36"H x 30"W x 16"D (200A & Below)**
- **50"H x 30"W x 16"D (400A)**
- **60"H x 36"W x 24"D (600A & Above)**

Rev 2.0

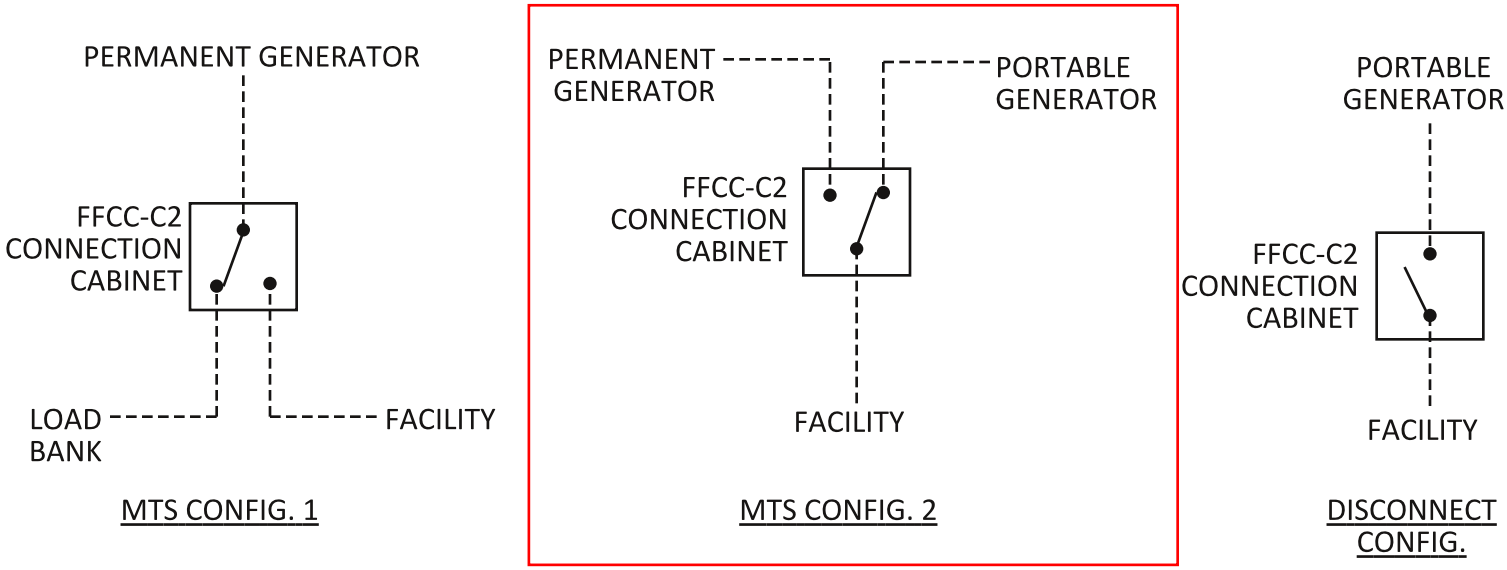
Foxfab Power Solutions

Head Office: 2579 188 St, Surrey, BC Canada, V3Z 2A1 Toll Free: (877) 468-0305 Email: sales@foxfab.com

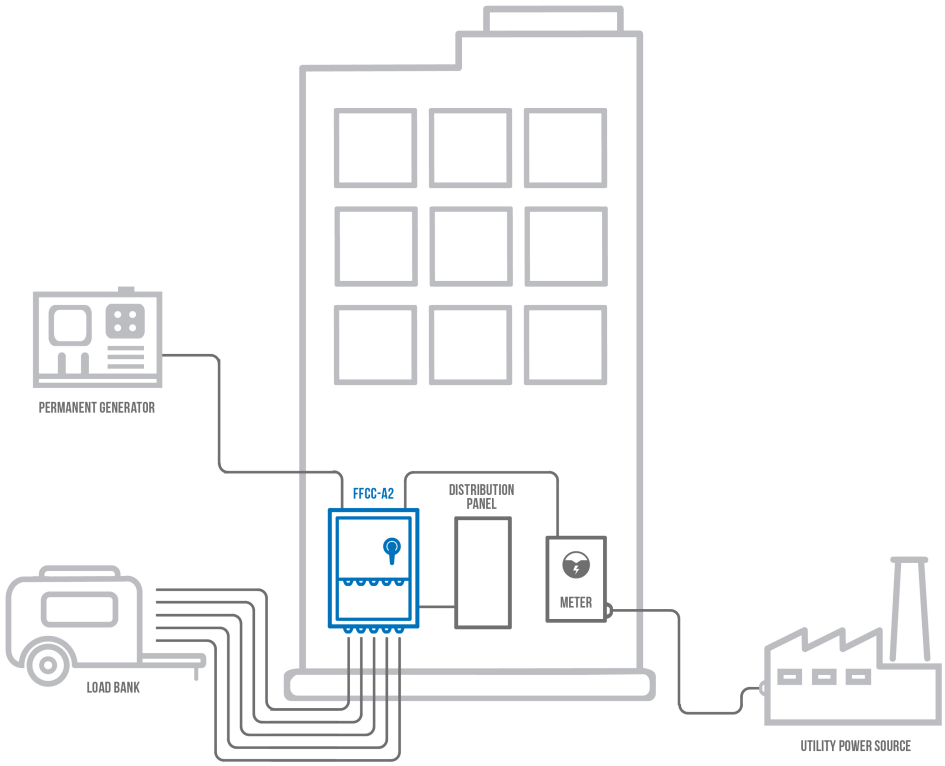
Connection Cabinets

FFCC-A2 Series

One-Line Diagram



Application Diagram



Rev 2.0

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Connection Cabinets

FFCC-A2 Series

Product Selector

FFCC - A2 - 200 - T - U4 - G - CRS - LA - AF PART NO.

FFCC - A2 - 800 - T - U3 - G - CRS - LA - A25 EX.

AMPS
100
200
400
600
800
1200

TYPE
T = MANUAL TRANSFER SWITCH
D = ROTARY DISCONNECT

CONNECTION
G = PORTABLE GENERATOR (INLET)
L = LOAD BANK (OUTLET)

ENCLOSURE CONSTRUCTION
CRS = COLD ROLLED STEEL

ACCESSORIES
AXX = 400A CAMLOCK CABLE SET (XX = FT)
AA = CAMLOCK SNAP COVERS
AB = CUSTOM POWDER COAT COLOUR
AC = HEATER W/ STAT
AD = GFCI RECEPTACLE
AE = KEY INTERLOCK
AF = TERMINAL STRIP
AG = PHASE SEQUENCE MONITOR
AH = POWER METER
AI = MICRO-SWITCH
AJ = LEG STAND SET

USA		CAMLOCK COLOUR GUIDE				
VOLTAGE		A	B	C	N	G
U1 = 120/240V (1PH + N + G)		BLK	RED		WHT	GRN
U2 = 240V (3PH + G)		BLK	RED	BLU		GRN
U3 = 208Y/120V (3PH + N + G)		BLK	RED	BLU	WHT	GRN
U4 = 480Y/277V (3PH + N + G)		BRN	ORG	YEL	WHT	GRN
U5 = 480V (3PH + G)		BRN	ORG	YEL		GRN

CANADA		CAMLOCK COLOUR GUIDE				
VOLTAGE		A	B	C	N	G
C1 = 120/240V (1PH + N + G)		RED	BLK		WHT	GRN
C2 = 240V (3PH + G)		RED	BLK	BLU		GRN
C3 = 208Y/120V (3PH + N + G)		RED	BLK	BLU	WHT	GRN
C4 = 600Y/347V (3PH + N + G)		RED	BLK	BLU	WHT	GRN
C5 = 600V (3PH + G)		RED	BLK	BLU		GRN

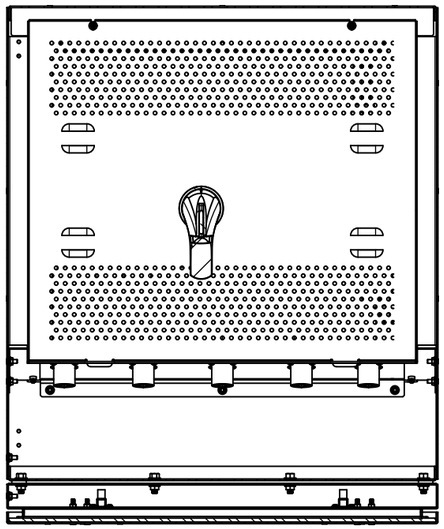
LUG CONFIGURATIONS (PER POLE)			
AMPS	OPTION LA	OPTION LB	OPTION LC
100A	(1) #6 AWG - 250MCM, (1) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND
200A	(1) #6 AWG - 250MCM, (1) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND
400A	(2) #6 AWG - 250MCM, (2) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND
600A	(2) #6 AWG - 250MCM, (2) #2 GND	(2) #4 AWG - 600MCM, (2) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND
800A	(3) #4 AWG - 600MCM, (3) #1/0 GND	(2) 300 - 800 MCM, (2) #2/0 GND	(2) 500 - 1000 MCM, (2) #2/0 GND
1200A	(4) #4 AWG - 600MCM, (4) #1/0 GND	(3) 300 - 800 MCM, (3) #2/0 GND	(3) 500 - 1000 MCM, (3) #2/0 GND

**FOR CUSTOM LUG SIZES, SPECIFY WHEN PLACING ORDER

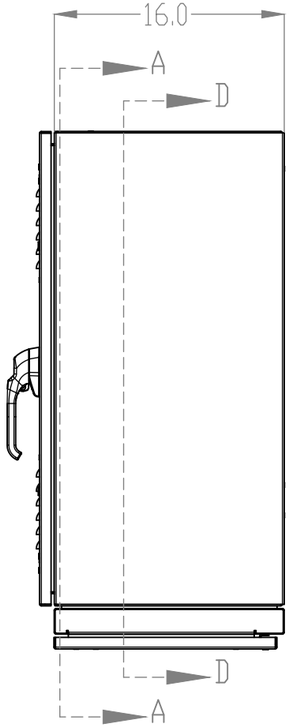
Foxfab Power Solutions

Head Office: 2579 188 St, Surrey, BC Canada, V3Z 2A1 Toll Free: (877) 468-0305 Email: sales@foxfab.com

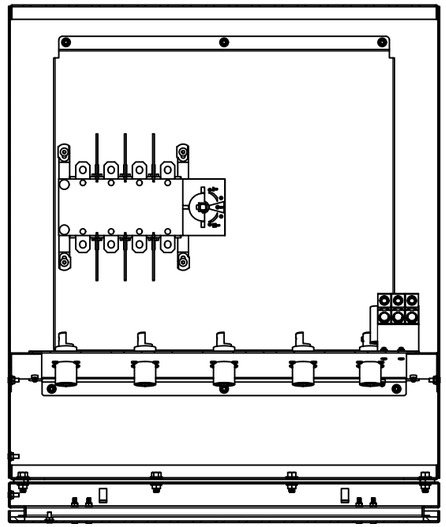
REVISION			
REV.	DESCRIPTION	DATE	DRAWNBY
A1	ISSUED FOR APPROVAL	08/30/2019	PG



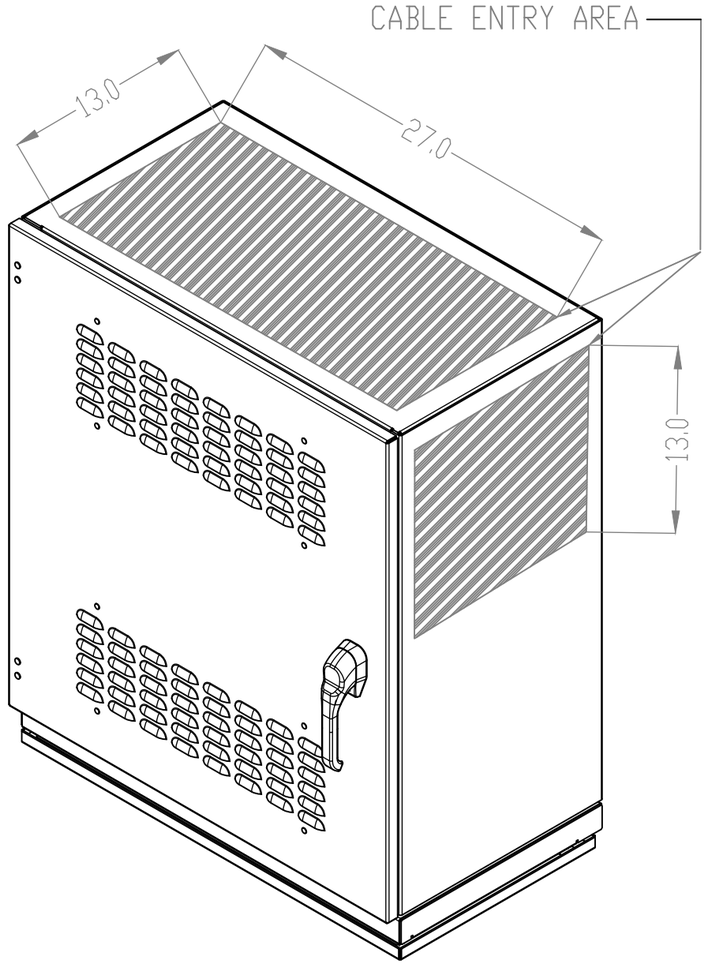
SECTION A-A



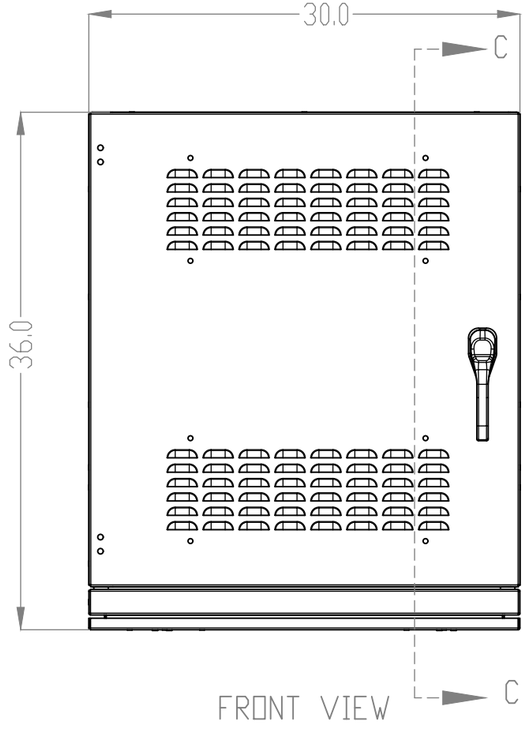
RIGHT SIDE VIEW



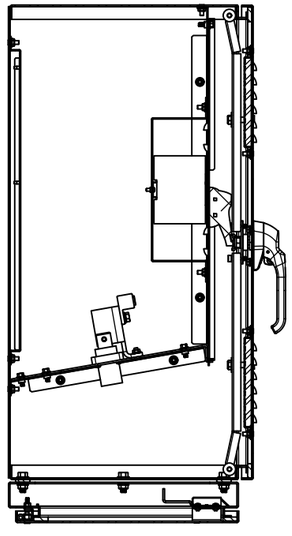
SECTION D-D



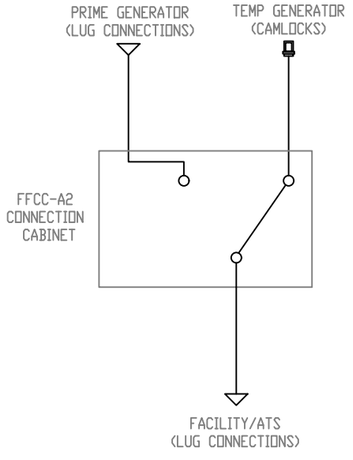
3D FRONT / TOP / SIDE VIEW



FRONT VIEW



SECTION C-C



THIRD ANGLE	DRAWN BY: PG	DATE: 2019-08-30	FOXFAB POWER SOLUTIONS 2579 188 ST. SURREY, BRITISH COLUMBIA, V3Z 2A1 PHONE: 604-460-9330 WWW.FOXFAB.COM
UNLESS OTHERWISE SPECIFIED	VERIFIED BY:		
	APPROVED BY:		
	ASME Y14.5	ITEM NO.: –	TITLE: FFCC-A2 SERIES 100A TO 200A
	MATERIAL:	SIZE: D	WEIGHT (LB): – REV: A1
FINISH:	SCALE:	DWG. NO.: FFCC-A2-100-200A-DWG	SHEET: 1 OF 1

VOLTAGE (CAMLOCK CONNECTIONS)							
CODE	VOLTAGE	A	B	C	N	G	SELECT
U1	120/240V	●	●		○	●	☐
U2	240V	●	●	●		●	☐
U3	208Y/120V	●	●	●	○	●	☑
U4	480Y/277V	●	●	●	○	●	☑
U5	480V	●	●	●		●	☐
C1	120/240V	●	●		○	●	☐
C2	240V	●	●	●		●	☐
C3	208Y/120V	●	●	●	○	●	☐
CU4	480Y/277V	●	●	●	○	●	☐
CU5	480V	●	●	●		●	☐
C4	600Y/347V	●	●	●	○	●	☐
C5	600V	●	●	●		●	☐

ACCESSORIES	
MODEL / CODE	FILL
AXX = 400A CAMLOCK CABLE SET (XX = FT)	A ☐
MODEL / CODE	**SELECT**
AA = CAMLOCK SNAP COVERS	☐
AB = CUSTOM POWDER COAT COLOUR	☐
AC = HEATER W/ STAT	☐
AD = GFCI RECEPTACLE	☐
AE = KEY INTERLOCK	☐
AF = TERMINAL STRIP	☑
AG = PHASE SEQUENCE MONITOR	☐
AH = POWER METER	☐
AI = MICRO-SWITCH	☐
AJ = LEG STAND SET	☐

LUG CONFIGURATION (PER POLE)				
AMPS	OPTION LA	OPTION LB	OPTION LC	FILL
60A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
100A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	LA
200A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	LA
400A	(2) #6 AWG - 250 MCM, (2) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
600A	(2) #6 AWG - 250 MCM, (2) #2 GND	(2) #4 AWG - 600 MCM, (2) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
800A	(3) #4 AWG - 600 MCM, (3) #1/0 GND	(2) 300 - 800 MCM, (2) #2/0 GND	(2) 500 - 1000 MCM, (2) #2/0 GND	☐
1200A	(4) #4 AWG - 600 MCM, (4) #1/0 GND	(3) 300 - 800 MCM, (3) #2/0 GND	(3) 500 - 1000 MCM, (3) #2/0 GND	☐
1600A	(5) #4 AWG - 600 MCM, (5) #1/0 GND	(4) 300 - 800 MCM, (4) #2/0 GND	(4) 500 - 1000 MCM, (4) #2/0 GND	☐
2000A	(6) #4 AWG - 600 MCM, (6) #1/0 GND	(5) 300 - 800 MCM, (5) #2/0 GND	(5) 500 - 1000 MCM, (5) #2/0 GND	☐
2400A	(8) #4 AWG - 600 MCM, (8) #1/0 GND	(6) 300 - 800 MCM, (6) #2/0 GND	(6) 500 - 1000 MCM, (6) #2/0 GND	☐
2800A	(9) #4 AWG - 600 MCM, (9) #1/0 GND	(8) 300 - 800 MCM, (8) #2/0 GND	(7) 500 - 1000 MCM, (7) #2/0 GND	☐
3000A	(9) #4 AWG - 600 MCM, (9) #1/0 GND	(8) 300 - 800 MCM, (8) #2/0 GND	(7) 500 - 1000 MCM, (7) #2/0 GND	☐
3200A	(10) #4 AWG - 600 MCM, (10) #1/0 GND	(9) 300 - 800 MCM, (9) #2/0 GND	(8) 500 - 1000 MCM, (8) #2/0 GND	☐
3600A	(11) #4 AWG - 600 MCM, (11) #1/0 GND	(10) 300 - 800 MCM, (10) #2/0 GND	(9) 500 - 1000 MCM, (9) #2/0 GND	☐
4000A	(12) #4 AWG - 600 MCM, (12) #1/0 GND	(11) 300 - 800 MCM, (11) #2/0 GND	(9) 500 - 1000 MCM, (9) #2/0 GND	☐

VOLTAGE (LUG CONNECTIONS)		
CODE	VOLTAGE	SELECT
V1	120/240V (1PH + N + G)	☐
V2	240V (3PH + G)	☐
V3	208/120V (3PH + N + G)	☐
V4	480Y/277V (3PH + N + G)	☐
V5	480V (3PH + G)	☐
V6	600Y/347V (3PH + N + G)	☐
V7	600V (3PH + G)	☐

cULus LISTING	SELECT
UL 1008	☑
UL 1773	☐
UL 891	☐
SHORT CCT CURRENT RATING	**FILL**
SCCR	10 kA
CAMLOCK TYPE	**SELECT**
MALE	☑
FEMALE	☐

ENCLOSURE FEATURES	SELECT
ENCLOSURE TYPE	
TYPE 1	☐
TYPE 3R	☑
TYPE 4	☐
TYPE 4X	☐
ENCLOSURE CONSTRUCTION	
COLD ROLLED STEEL (CRS)	☑
5052 ALUMINUM	☐
304 STAINLESS STEEL	☐
316 STAINLESS STEEL	☐
POWDER COAT COLOUR	
STANDARD ASA 61 GREY	☑
OTHER COLOUR (SPECIFY IN NOTES)	☐

TABLE NOTE: *ONLY MAKE SELECTIONS ON VOLTAGE [LUG CONNECTION] TABLE FOR B2, CLC, M2F, OR M2N MODELS.

NOTES:

PART NO. FFCC-A2-100-T-U3-G-CRS-LA-AF

INCLUDED EQUIPMENT: 100A 3P MANUAL TRANSFER SWITCH C/W AUXILIARY CONTACTS, TERMINAL STRIP

QUANTITY 2 UNITS

REVISIONS			
REV.	DESCRIPTION	DATE	APPR.
1.0	FFCC SELECTION TABLES	2019-08-30	PG

Foxfab Power Solutions
2579-188 ST
SURREY, BC V3Z2A1
(604) 460-9310
WWW.FOXFAB.COM

TITLE

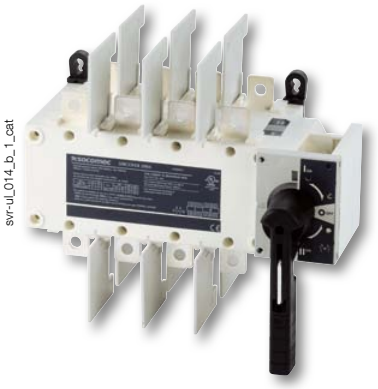
FOXFAB CONNECTION CABINETS SELECTION TABLES

JOB NO.	CLIENT	
–	–	
DRAWN BY	CHECKED BY	APPROVED
PG	–	
MODEL NO.		REV.
		1
DRAWING NO.		SHEET NO.
FF-SELECT-TABLES		01

SIRCOVER UL1008

Manually operated Transfer Switching Equipment

from 100 to 1200 A



svr-ul_014_b_1_cat

svr-ul_013_a_2_cat

Function

SIRCOVER UL1008/98 are heavy duty manual transfer switches. They ensure switching transfer of sources or transfer of two low voltage circuits on load as well as their safe disconnection.

These switches are extremely durable and are tested and approved for use in the most demanding applications, such as resitive load or total system applications.

Advantages

Stable positions

SIRCOVERs have three stable positions which are not affected by voltage drops or vibrations, thus protecting your load against network interference.

Compact design

The SIRCOVER are based on a back-to-back switching technology, providing a compact solution.

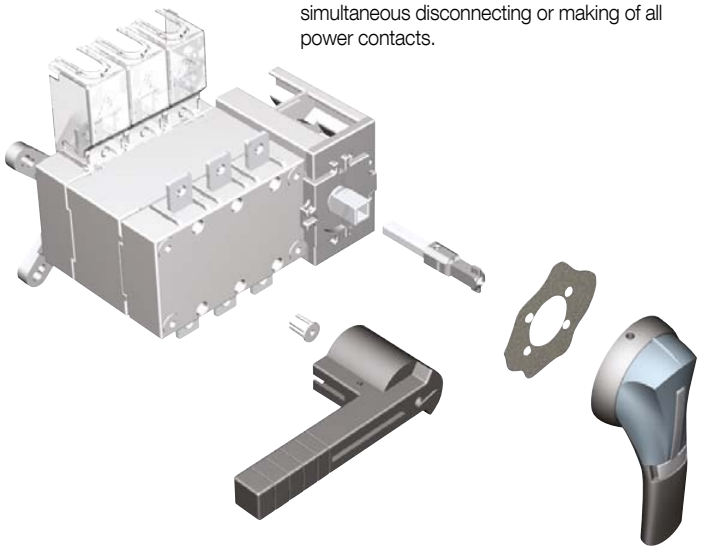
On-load switching

The SIRCOVER UL enables secure and reliable switching, without the need for pre-breaking upstream.

Reliability

The SIRCOVER has double breaking per pole acheived through its sliding bar contacts system.

The quick opening and rapid closure provides simultaneous disconnecting or making of all power contacts.



svr_136_a_2_cat

The solution for

- Manufacturing industry
- Power distribution
- Domestic

Strong points

- Stable positions
- Compact design
- On-load switching
- Reliability

Conformity to standards

- UL 1008, Guide WPYV, file 317092
- UL 98, Guide WHTY, file 201138
- CSA 22.2#4, Class 4651-02

UL 98 and CSA from 600-1200 A with 100-400 A on request with a specific reference.

Enclosed solutions

SOCOMEC offers a range of pre-equipped enclosures in steel or polyester.

Enclosed ***SIRCOVER***

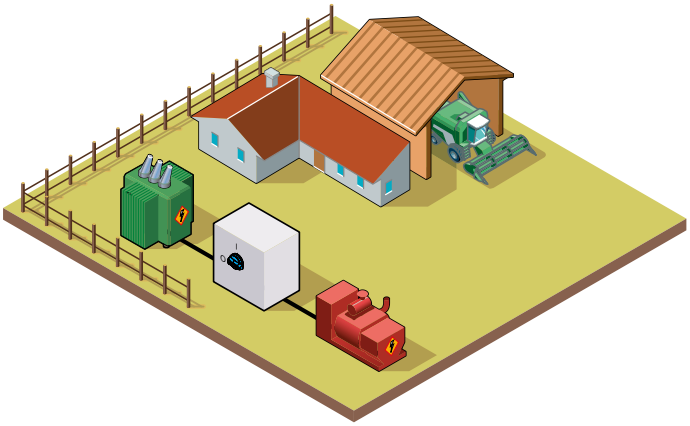
socomec Innovative Power Solutions

Typical application

The SIRCOVER UL 1008 range provides safe transfer and disconnection at all levels within your LV installation.
They can be used for changing motor phase for rotation control or equipmement grounding as well.

Normal power supply to genset transfer
The source transfer will be operated safely even under on-load or over-load conditions

svr-uL_017_a



SOCOMEC solution up to 1200 A

svr-uL_014_b_2_cat

UL 1008 Manual Transfer Switch
From **100 to 400 A** for resistive and total systems applications.
UL 98 versions on request

svr-uL_013_a_2_cat

UL 1008 and UL 98 Manual Transfer Switch
From **600 to 1200 A** for resistive and total systems applications.
Has UL 98/CSA 22.2#4 certification

IEC solution up to 3200 A

The SIRCOVER UL 1008 is part of a large range that includes an IEC products of standalone or enclosed manual transfer switches and manual bypass switches with overlapping options.
Contact us for further information on our complete range.

References

SIRCOVER UL 1008

Rating (A)	Frame size	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars	Auxiliary contacts	Terminal screens
100 A	B4	2 P	4150 **2012**	Black 4199 **4012**	S2 type Black I - 0 - II 4, 4X 142D **2113** Padlockable in all 3 positions 142D **2813**	S2 type 200 mm 7.9 inches 1400 **1020** 320 mm 12.6 inches 1400 **1032** 400 mm 15.7 inches 1400 **1040**	2 P 4159 **2021** 3 P 4159 **3021** 4 P 4159 **4021**	Contact NO/NC 4159 0021 Low level 4159 **0022**	2 / 3 P 4158 **3021** 4 P 4158 **4021**
		3 P	4150 **3012**						
		4 P	4150 **4012**						
200 A		2 P	4150 **2022**						
		3 P	4150 **3022**						
		4 P	4150 **4022**						
260 A	B5	2 P	4150 **2026**		S2 type Black I - 0 - II 4, 4X 142D **2113** S3 type Black I - 0 - II 4, 4X 143D **3113**	S3, S4 type 200 mm 7.9 inches 1401 **1520** 320 mm 12.6 inches 1401 **1532** 400 mm 15.7 inches 1401 **1540**	2 P 4159 **2041** 3 P 4159 **3041** 4 P 4159 **4041**		2 / 3 P 4158 **3041** 4 P 4158 **4041**
		3 P	4150 **3026**						
		4 P	4150 **4026**						
400 A		2 P	4150 **2042**						
		3 P	4150 **3042**						
		4 P	4150 **4042**						
600 A	B6	3 P	4150 **3060**	Black 4199 **7012**	S3 type Black I - 0 - II 4, 4X 143D **3113**		3 P 4159 **3063** 4 P 4159 **4063**		3 P 1609 **3063** 4 P 1609 **4063**
		4 P	4150 **4060**						
800 A	B7	3 P	4150 **3080**	Black 4199 **7062**	S4 type Black I - 0 - II 4, 4X 144D **3813**(1)		3 P 4159 **3080** 4 P 4159 **4080**	Contact NO/NC as standard	3 P 1609 **3080** 4 P 1609 **4080**
		4 P	4150 **4080**						
1200 A		3 P	4150 **3120**						
		4 P	4150 **4120**						

Accessories

Direct handle

Rating (A)	Type	Colour	Handle type	Reference
100 … 400	B3	Black	1 lever	4199 **4012**
600	C2	Black	2 lever	4199 **7012**
800 … 1200	V1	Metal	2 lever	4199 **7062**

B3 type *C2 type* *V1 type*

External handle

Rating (A)	Handle type	Colour	Nema type	Lockable in 3 positions	Reference
100 ... 200	S2	Black	4, 4X	no	142D **2113**
100 ... 200	S2	Red/Yellow	4, 4X	no	142E **2113**
100 ... 200	S2	Black	1, 3R, 12	no	142F **2113**
100 ... 200	S2	Red/Yellow	1, 3R, 12	no	142G **2113**
100 ... 200	S2	Black	4, 4X	yes	142D **2813**
100 ... 200	S2	Red/Yellow	4, 4X	yes	142E **2813**
100 ... 200	S2	Black	1, 3R, 12	yes	142F **2813**
100 ... 200	S2	Red/Yellow	1, 3R, 12	yes	142G **2813**
260 ... 600	S3	Black	4, 4X	no	143D **3113**
260 ... 600	S3	Red/Yellow	4, 4X	no	143E **3113**
260 ... 600	S3	Black	1, 3R, 12	no	143F **3113**
260 ... 600	S3	Red/Yellow	1, 3R, 12	no	143G **3113**
260 ... 600	S3	Black	4, 4X	yes	143D **3813**
260 ... 600	S3	Red/Yellow	4, 4X	yes	143E **3813**
260 ... 600	S3	Black	1, 3R, 12	yes	143F **3813**
260 ... 600	S3	Red/Yellow	1, 3R, 12	yes	143G **3813**
800 ... 1200	S4	Black	4, 4X	no	144D **3113**
800 ... 1200	S4	Black	1, 3R, 12	no	144E **3113**
800 ... 1200	S4	Black	1, 3R, 12	no	144E **3113**
800 ... 1200	S4	Red/Yellow	1, 3R, 12	no	144G **3113**
800 ... 1200	S4	Black	4, 4X	yes	144D **3813**
800 ... 1200	S4	Red/Yellow	4, 4X	yes	144E **3813**
800 ... 1200	S4	Black	1, 3R, 12	yes	144F **3813**
800 ... 1200	S4	Red/Yellow	1, 3R, 12	yes	144G **3813**
800 ... 1200	S5	Black	1, 3R, 12(1)	no	1453 **8113**
800 ... 1200	S5	Red/Yellow	1, 3R, 12(1)	no	1454 **8113**
800 ... 1200	V1	Black	1, 3R, 12(1)	no	4199 **7149**

(1) For 4, 4X please consult us.

Use

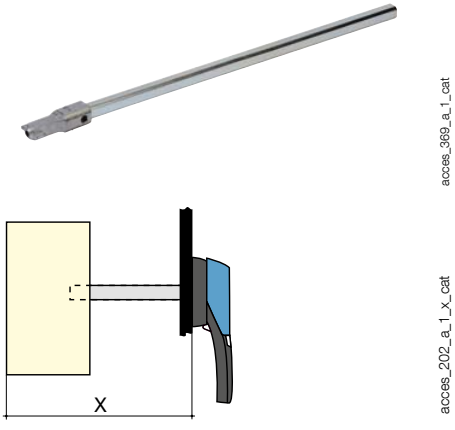
The handle interlocking function prevents the user from opening the door of the enclosure when the switch is in the "ON" position.

Opening the door when the switch is in the "ON" position is possible by defeating the interlocking function (not S5 and V handles) with the use of a tool (authorised persons only).

The interlocking function is restored when the door is re-closed.

Shaft for external handle

Rating (A)	Handle type	Length (in)	Length (mm)	Dimension (in)	Dimension (mm)	Reference
100 … 200	S2	7.9	200	10 … 14.3	254 … 362	1400 **1020**
100 … 200	S2	12.6	320	10 … 19	254 … 482	1400 **1032**
100 … 200	S2	15.7	400	10 … 22.1	254 … 562	1400 **1040**
260 … 400	S3	7.9	200	12 … 18.4	305 … 467	1401 **1520**
260 … 400	S3	12.6	320	12 … 23.1	305 … 587	1401 **1532**
260 … 400	S3	15.7	400	12 … 26.3	305 … 667	1401 **1540**
260 … 400	S3	7.9	200	20 … 23.4	508 … 594	1401 **1520**
260 … 400	S3	12.6	320	20 … 28.1	508 … 714	1401 **1532**
260 … 400	S3	15.7	400	20 … 31.3	508 … 794	1401 **1540**
800 … 1200	S4	7.9	200	20 … 23.4	508 … 594	1401 **1520**
800 … 1200	S4	12.6	320	20 … 28.1	508 … 714	1401 **1532**
800 … 1200	S4	15.7	400	20 … 31.3	508 … 794	1401 **1540**
800 … 1200	V1 / S5	12.6	320	20 … 28.1	508 … 714	4199 **3018**
800 … 1200	V1 / S5	15.7	400	20 … 31.3	508 … 794	4199 **3019**



Accessories (continued)

Bridging bars

Use

Creation of a common point, above or below the switch, between positions I and II.

Rating (A)	No. bridging bar	Reference
100 ... 200	2	4159 **2021**
100 ... 200	3	4159 **3021**
100 ... 200	4	4159 **4021**
260 ... 400	2	4159 **2041**
260 ... 400	3	4159 **3041**
260 ... 400	4	4159 **4041**
600	3	4159 **3063**
600	4	4159 **4063**
800 ... 1200	3	4159 **3080**
800 ... 1200	4	4159 **4080**

acces_205_a_1_cat

Terminal protection screen

Use

Top or bottom protection against direct contact with terminals or connecting parts.

Rating (A)	No. of poles	Reference
100 ... 200	2P / 3P	4158 **3021**
100 ... 200	4 P	4158 **4021**
260 ... 400	2P / 3P	4158 **3041**
260 ... 400	4 P	4158 **4041**
600	6 P	1609 **3063**
600	4 P	1609 **4063**
800 ... 1200	3 P	1609 **3080**
800 ... 1200	4 P	1609 **4080**

acces_207_a_1_cat

Auxiliary contacts

Use

Pre-break and signalisation of positions .
For low level ACs and other ACs contact us.

Electrical characteristics

A300.

NO/NC auxiliary contact

Rating (A)	Contact (s)	Reference
100 ... 400	NO/NC on position 1 and 2	4159 **0021**
100 ... 400	Low level NO/NC on position 1 and 2	4159 **0022**
600 ... 1200	NO/NC on position 1 and 2	included

acces_065_a_1_cat

acces_065_a_1_cat

Terminal lugs

Use

Connection of bare copper cables onto the terminals (without lugs).

Rating (A)	Wires range	No wires per lug	Lugs per kit	Wires	Reference
100 ... 200	6 - 300MCM	1	2	Cu / Al	3954 **2020**
100 ... 200	6 - 300MCM	1	3	Cu / Al	3954 **3020**
100 ... 200	6 - 300MCM	1	4	Cu / Al	3954 **4020**
260 ... 400	4 - 600MCM	1	2	Cu / Al	3954 **2040**
260 ... 400	4 - 600MCM	1	3	Cu / Al	3954 **3040**
260 ... 400	4 - 600MCM	1	4	Cu / Al	3954 **4040**
600	2x (#2 - 600MCM)	2	3	Cu / Al	3954 **3060**
600	2x (#2 - 600MCM)	2	4	Cu / Al	3954 **4060**
800 ... 1200(1)	2x 2x(#2 - 600MCM)	2	6	Cu / Al	3954 **3120**
800 ... 1200(1)	2x 2x(#2 - 600MCM)	2	8	Cu / Al	3954 **4120**

(1) To be used to connect 4 wires on one terminal. In such a case, 2 lugs are placed side-by-side on one terminal. Please refer to dimensions diagram

ul_032_a

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Characteristics

Characteristics according to UL 1008

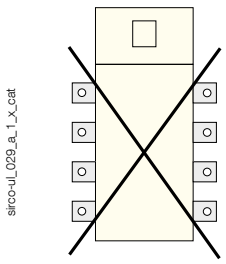
General use rating (A)	100 A	200 A	260 A	400 A	600 A	800 A	1200 A
Frame size	**B4**		**B5**		**B6**	**B7**	
Operation voltage 2 P - 3/4 P	240/600	240/600	240/600	240/600	-/600	-/600	-/600
Short circuit rating at 600 VAC with fuses (kA)							
Short circuit rating at 600 VAC (kA)	100	100	100	100	100	100	100
Type of fuse	J	J	J	J	L	L	L
Short circuit rating at 600 VAC with “Specific Circuit Breaker” (kA)							
Square D JJ breaker 250 A - 2 P 240 VAC - 3/4 P 480 VAC	65	65	-	-	-	-	-
Schneider Electric NSX-F 160 A - 3/4 P 480 VAC	35	-	-	-	-	-	-
Short circuit rating at 600 VAC with “Any Breaker” (kA)							
Short circuit rating (kA)	10	10	14	14	35	35	35
Short circuit capacity (ms)	25	25	50	50	50	50	50
Rated operational current							
240 VAC “Total System” (A)	100	200	260	400	400	700	700
240 VAC resistive load (A)	100	200	260	400	600	800	1200
480 VAC “Total System” (A)	100	100	260	400	350	600	600
480 VAC resistive load (A)	100	200	260	400	600	800	1200
600 VAC “Total System” (A)	100	100	200	200	-	-	-
600 VAC resistive load (A)	100	200	260	400	600	800	1200
Mechanical endurance							
Endurance (number of operating cycles)	6050	6050	6050	4050	3050	3050	3050
Connection terminals							
Min. connection section / AWG	#6	#6	#4 / 2 X 1 /0	#4 / 2 X 1 /0	2 x #2	2 x #2	4 x #2
Max. connection section / AWG	300MCM	300MCM	600MCM / 2 X 250MCM	600MCM / 2 X 250MCM	2x 600MCM	2x 600MCM	4 x 600MCM

Characteristics according to UL 98/CSA 22.2#4

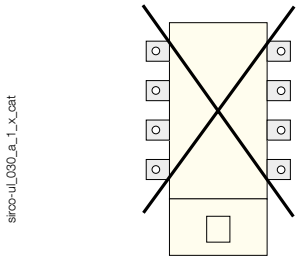
General use rating at 600 VAC and 250 VDC (A)	Specific reference upon request				600 A	800 A	1200 A
Frame size					**B6**	**B7**	
Short-circuit rating at 600 VAC (kA)	-	-	-	-	200	100	100
Type of fuse	-	-	-	-	J	L	L
Max. fuse rating (A)	-	-	-	-	600	800	1200
Max. motor, hp / FLA 3 ph motor max.							
220-240 VAC	-	-	-	-	200 / 480	-	-
440-480 VAC	-	-	-	-	400 / 477	-	-
600 VAC	-	-	-	-	500 / 472	-	-
Mechanical characteristics							
Endurance (number of operating cycles)	-	-	-	-	5000	3500	2500
Operating torque (lbs.in/Nm)	-	-	-	-	327.5/37	442.5/50	442.5/50
Auxiliary contacts							
Electrical characteristics	A300	A300	A300	A300	A300	A300	A300

Mounting orientation

100 to 400 A / B4 - B5

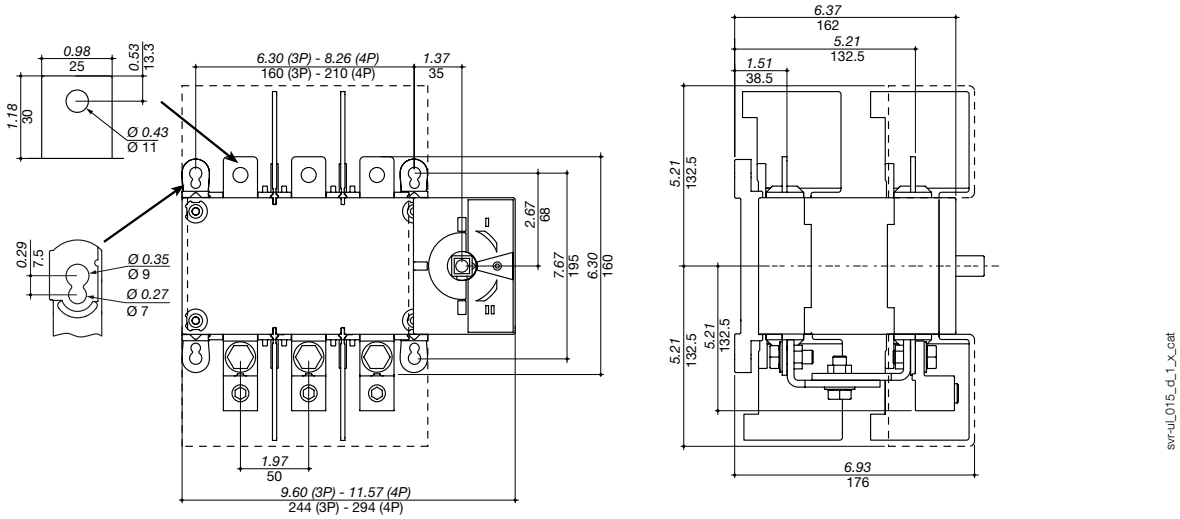


600 to 1200 A / B6 - B7

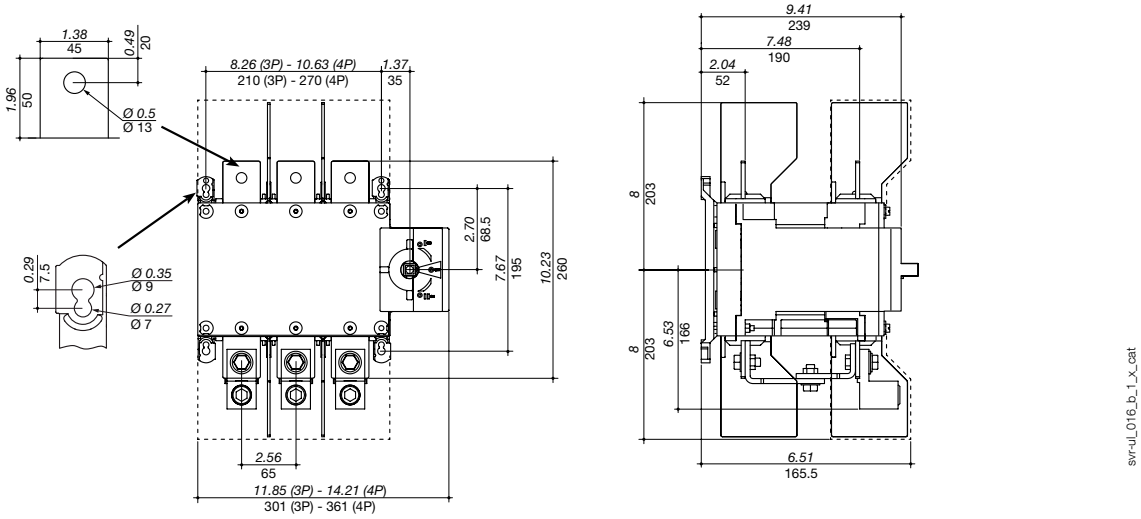


Dimensions (in/mm)

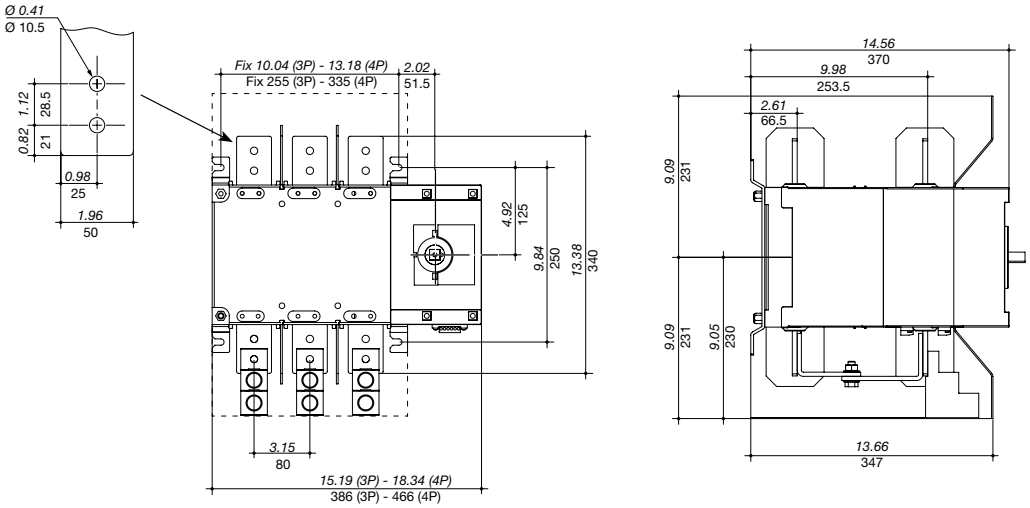
100 to 200 A / B4



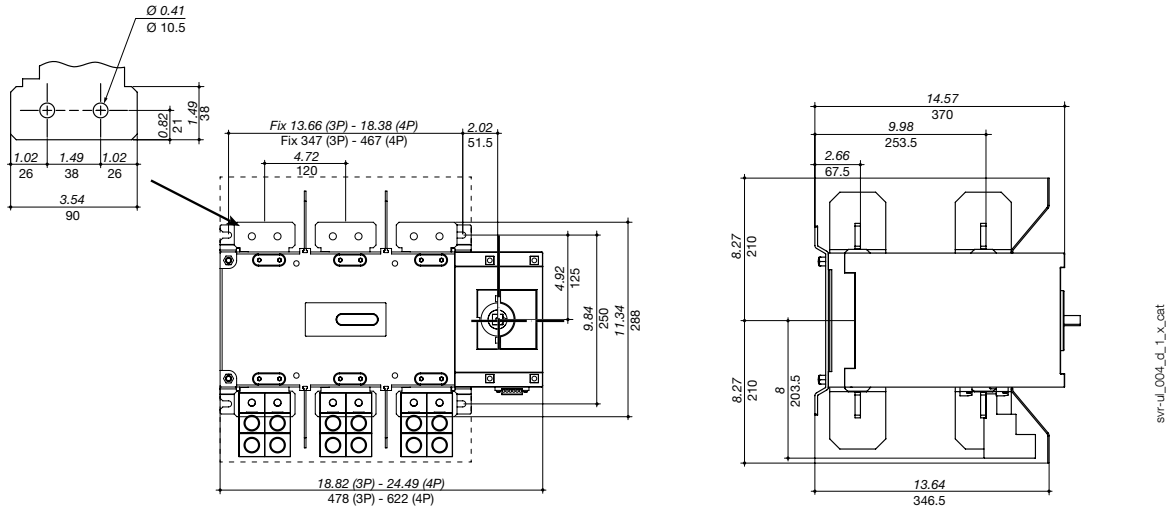
260 to 400 A / B5



600 A / B6

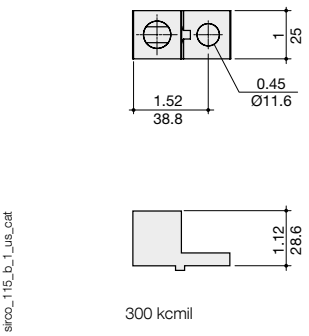


800 to 1200 A / B7

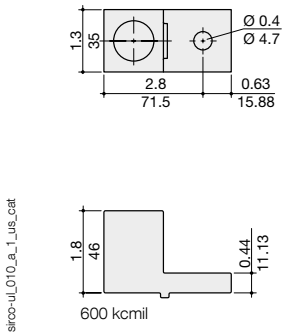


Terminal lugs (in/mm)

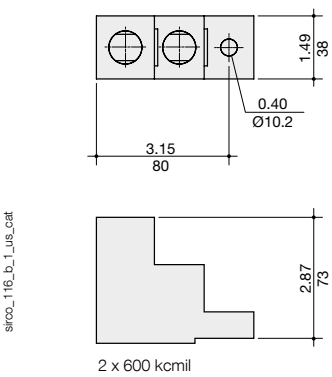
100 to 200 A / B4



260 to 400 A / B5

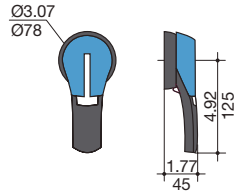
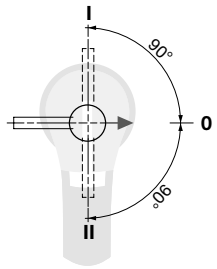
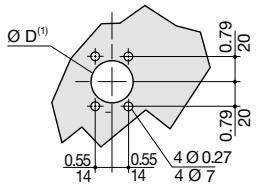


600 to 1200 A / B6 - B7

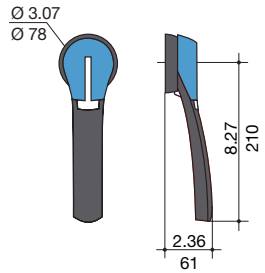
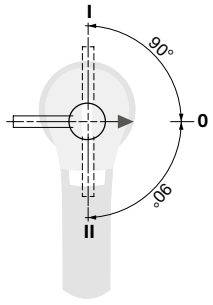
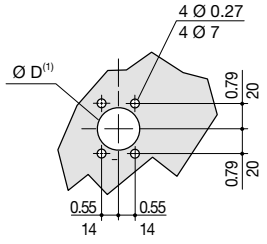


External handles dimensions (in/mm)

100 and 200 A / B4

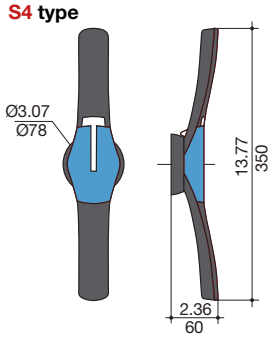
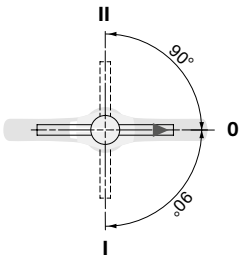
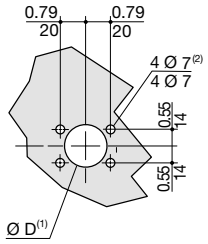
Handle type	Front operation Direction of operation	Door drilling
S2 type 		

260 and 600 A / B5 - B6

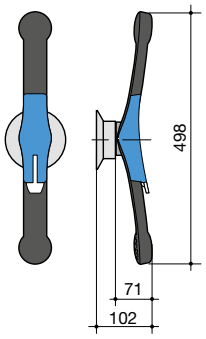
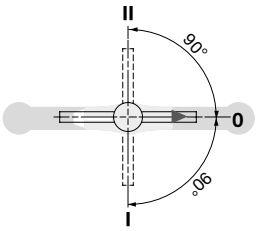
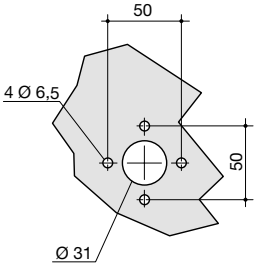
Handle type	Front operation Direction of operation	Door drilling
S3 type 		

External handles dimensions (in/mm) (continued)

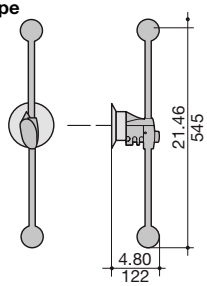
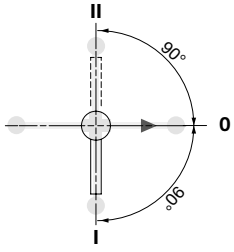
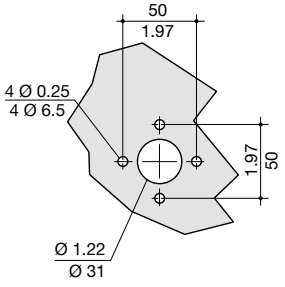
800 to 1200 A / B7

Handle type	Front operation Direction of operation	Door drilling
S4 type 		

poign_065_a_1_gb_cat

Handle type	Front operation Direction of operation	Door drilling
S5 type with V Escutcheon 		

poign_047_a_1_gb_cat

Handle type	Front operation Direction of operation	Door drilling
V1 type 		

poign_066_a_1_us_cat

Connection Cabinets

FFCC-A2 Series

The FFCC-A2 Series Connection Cabinets offer quick connection to a mobile generator (inlet) or load bank (outlet). They can be penetrated from the back or top to allow for facility wiring. These units are equipped with a manual transfer switch enabling switching to a mobile generator or load bank. Units can also be specified with a rotary disconnect. Units come complete with colour coded camlock receptacles allowing for easy connection. Assemblies are available with up to 1200A mains and are certified to cULus standards.

- **CRS Construction**
- **Type 3R Weatherproof Enclosure**
- **Fully Welded Construction**
- **Wall-Mount Design**
- **Certified to cULus Standards**
- **Manual Transfer Switch or Rotary Disconnect**
- **Dead Front Cover**
- **Colour Coded Camlock Receptacles**
- **Standard Mechanical Lugs Kit**
- **Angled Camlock Plate for Secure Connection**
- **Bottom Cable Access Door**
- **Door c/w 3 Pt. SS Pad-Lockable Handle**
- **Stainless Steel Hinges with Removable Pins**

Max Ratings

- **1200A**
- **600VAC**

Dimensions

- **36"H x 30"W x 16"D (200A & Below)**
- **50"H x 30"W x 16"D (400A)**
- **60"H x 36"W x 24"D (600A & Above)**

Rev 2.0

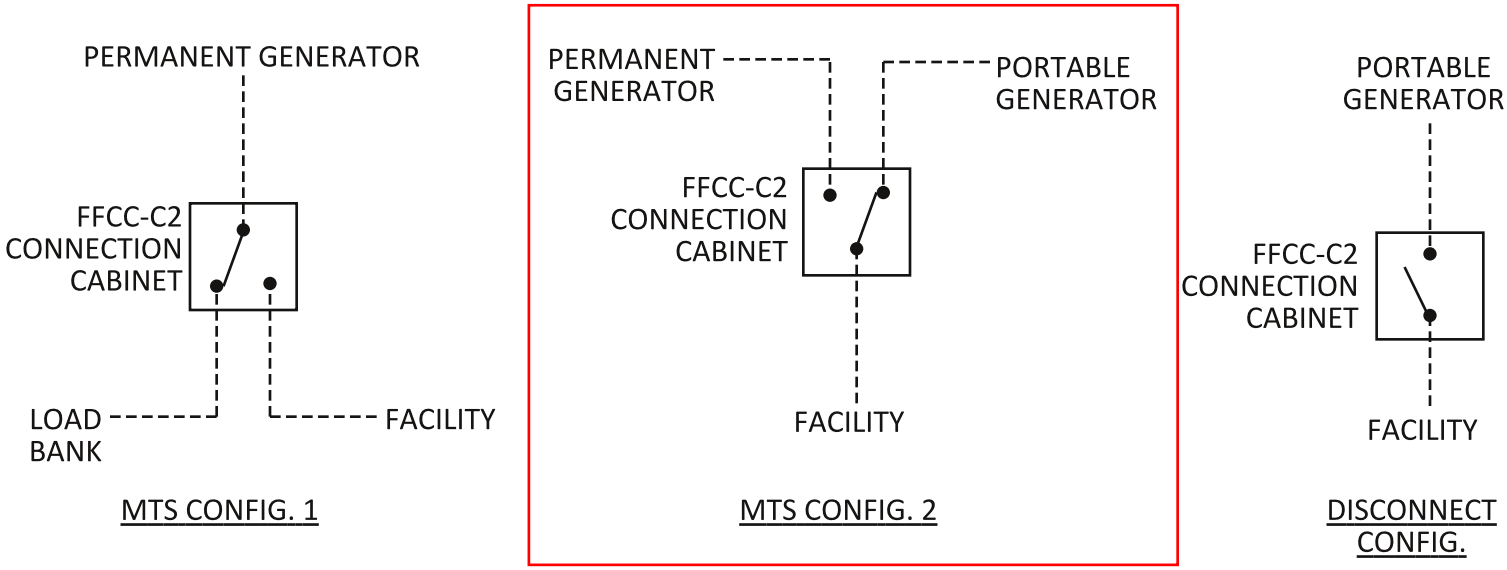
Foxfab Power Solutions

Head Office: 2579 188 St, Surrey, BC Canada, V3Z 2A1 Toll Free: (877) 468-0305 Email: sales@foxfab.com

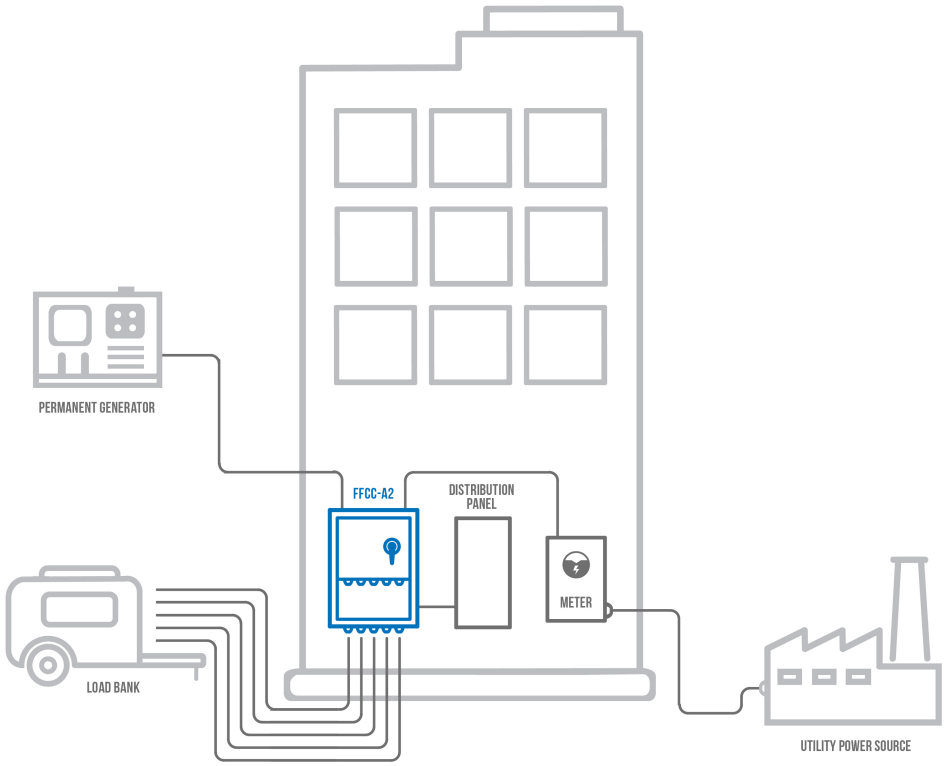
Connection Cabinets

FFCC-A2 Series

One-Line Diagram



Application Diagram



Rev 2.0

Foxfab Power Solutions

Head Office: 2579 188 St, Surrey, BC Canada, V3Z 2A1 Toll Free: (877) 468-0305 Email: sales@foxfab.com

FFCC-A2 Series

Product Selector

FFCC - A2 - 400 - T - U4 - G - CRS - LA - AF PART NO.

FFCC - A2 - 800 - T - U3 - G - CRS - LA - A25 EX.

AMPS
100
200
400
600
800
1200

TYPE
T = MANUAL TRANSFER SWITCH
D = ROTARY DISCONNECT

CONNECTION
G = PORTABLE GENERATOR (INLET)
L = LOAD BANK (OUTLET)

ENCLOSURE CONSTRUCTION
CRS = COLD ROLLED STEEL

ACCESSORIES
AXX = 400A CAMLOCK CABLE SET (XX = FT)
AA = CAMLOCK SNAP COVERS
AB = CUSTOM POWDER COAT COLOUR
AC = HEATER W/ STAT
AD = GFCI RECEPTACLE
AE = KEY INTERLOCK
AF = TERMINAL STRIP
AG = PHASE SEQUENCE MONITOR
AH = POWER METER
AI = MICRO-SWITCH
AJ = LEG STAND SET

USA

VOLTAGE	CAMLOCK COLOUR GUIDE				
	A	B	C	N	G
U1 = 120/240V (1PH + N + G)	BLK	RED		WHT	GRN
U2 = 240V (3PH + G)	BLK	RED	BLU		GRN
U3 = 208Y/120V (3PH + N + G)	BLK	RED	BLU	WHT	GRN
U4 = 480Y/277V (3PH + N + G)	BRN	ORG	YEL	WHT	GRN
U5 = 480V (3PH + G)	BRN	ORG	YEL		GRN

CANADA

VOLTAGE	CAMLOCK COLOUR GUIDE				
	A	B	C	N	G
C1 = 120/240V (1PH + N + G)	RED	BLK		WHT	GRN
C2 = 240V (3PH + G)	RED	BLK	BLU		GRN
C3 = 208Y/120V (3PH + N + G)	RED	BLK	BLU	WHT	GRN
C4 = 600Y/347V (3PH + N + G)	RED	BLK	BLU	WHT	GRN
C5 = 600V (3PH + G)	RED	BLK	BLU		GRN

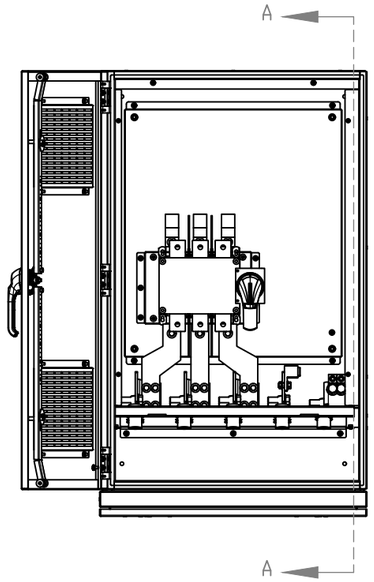
LUG CONFIGURATIONS (PER POLE)

AMPS	OPTION LA	OPTION LB	OPTION LC
100A	(1) #6 AWG - 250MCM, (1) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND
200A	(1) #6 AWG - 250MCM, (1) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND
400A	(2) #6 AWG - 250MCM, (2) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND
600A	(2) #6 AWG - 250MCM, (2) #2 GND	(2) #4 AWG - 600MCM, (2) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND
800A	(3) #4 AWG - 600MCM, (3) #1/0 GND	(2) 300 - 800 MCM, (2) #2/0 GND	(2) 500 - 1000 MCM, (2) #2/0 GND
1200A	(4) #4 AWG - 600MCM, (4) #1/0 GND	(3) 300 - 800 MCM, (3) #2/0 GND	(3) 500 - 1000 MCM, (3) #2/0 GND

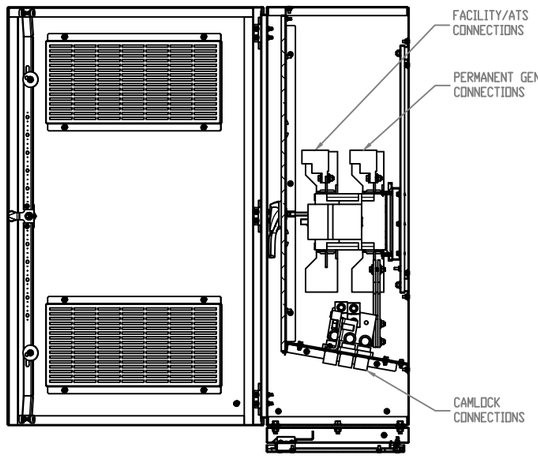
**FOR CUSTOM LUG SIZES, SPECIFY WHEN PLACING ORDER

Foxfab Power Solutions
Head Office: 2579 188 St, Surrey, BC Canada, V3Z 2A1 Toll Free: (877) 468-0305 Email: sales@foxfab.com

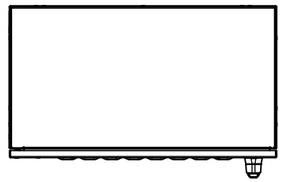
REVISION			
REV.	DESCRIPTION	DATE	DRAWNBY
A1	ISSUED FOR APPROVAL	08/30/2019	PG



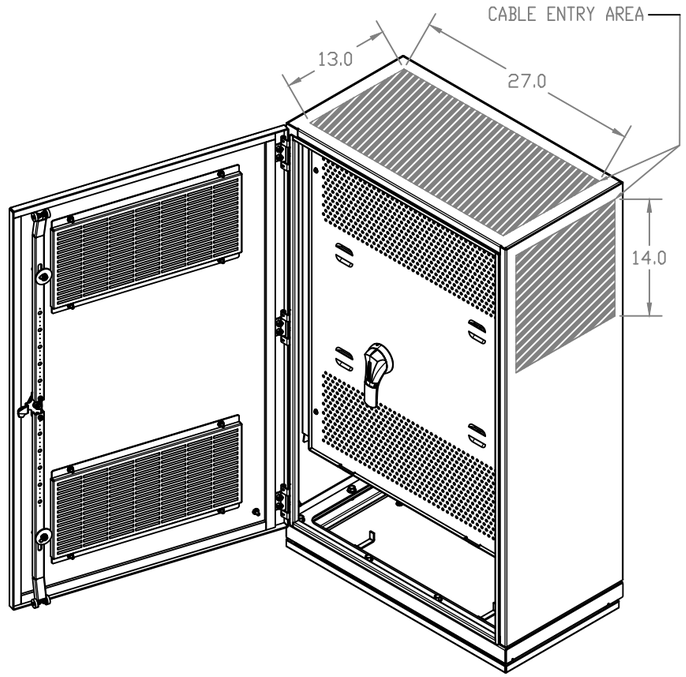
DOOR OPEN WITH DEADFRONT REMOVED, FRONT VIEW



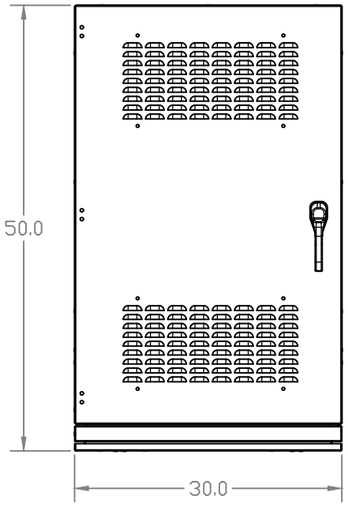
SECTION A-A



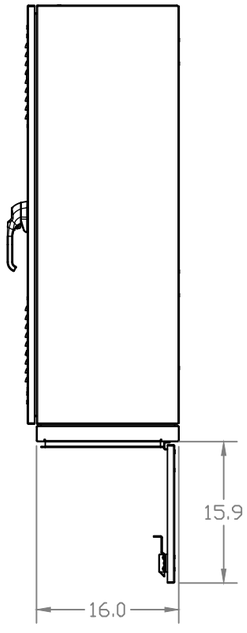
TOP VIEW



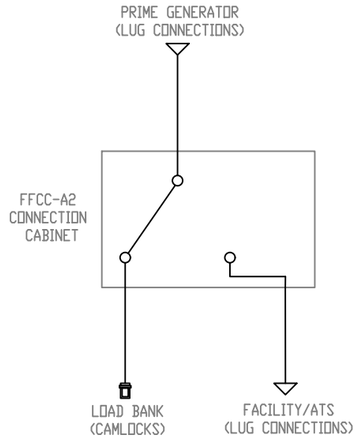
3D FRONT / TOP / SIDE VIEW



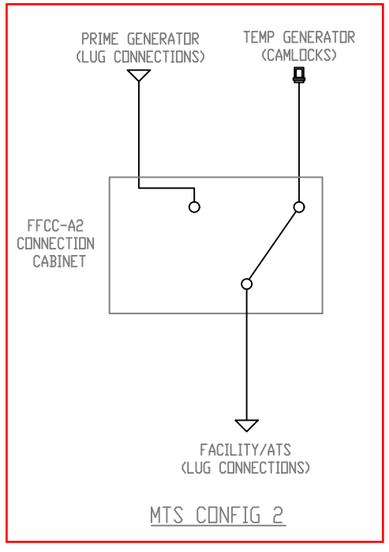
FRONT VIEW



RIGHT SIDE VIEW



MTS CONFIG 1



MTS CONFIG 2

ONE-LINE DIAGRAMS

THIRD ANGLE	DRAWN BY: PG	DATE: 2019-08-30	FOXFAB POWER SOLUTIONS 2579 188 ST. SURREY, BRITISH COLUMBIA, V3Z 2A6 PHONE: 604-468-9338 WWW.FOXFAB.COM
UNLESS OTHERWISE SPECIFIED	VERIFIED BY:		
	APPROVED BY:		ITEM NO.: – TITLE: FFCC-A2 SERIES 260A TO 400A
	MATERIAL: ASME Y14.5	SIZE: D	WEIGHT (LB): – REV: A1
FINISH:	SCALE:	DWG. NO.: FFCC-A2-260-400A-DWG	SHEET: 1 OF 1

VOLTAGE (CAMLOCK CONNECTIONS)							
CODE	VOLTAGE	A	B	C	N	G	SELECT
U1	120/240V	●	●		○	●	☐
U2	240V	●	●	●		●	☐
U3	208Y/120V	●	●	●	○	●	☑
U4	480Y/277V	●	●	●	○	●	☑
U5	480V	●	●	●		●	☐
C1	120/240V	●	●		○	●	☐
C2	240V	●	●	●		●	☐
C3	208Y/120V	●	●	●	○	●	☐
CU4	480Y/277V	●	●	●	○	●	☐
CU5	480V	●	●	●		●	☐
C4	600Y/347V	●	●	●	○	●	☐
C5	600V	●	●	●		●	☐

ACCESSORIES	
MODEL / CODE	FILL
AXX = 400A CAMLOCK CABLE SET (XX = FT)	A ☐
MODEL / CODE	**SELECT**
AA = CAMLOCK SNAP COVERS	☐
AB = CUSTOM POWDER COAT COLOUR	☐
AC = HEATER W/ STAT	☐
AD = GFCI RECEPTACLE	☐
AE = KEY INTERLOCK	☐
AF = TERMINAL STRIP	☑
AG = PHASE SEQUENCE MONITOR	☐
AH = POWER METER	☐
AI = MICRO-SWITCH	☐
AJ = LEG STAND SET	☐

LUG CONFIGURATION (PER POLE)				
AMPS	OPTION LA	OPTION LB	OPTION LC	FILL
60A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
100A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	LA
200A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	LA
400A	(2) #6 AWG - 250 MCM, (2) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
600A	(2) #6 AWG - 250 MCM, (2) #2 GND	(2) #4 AWG - 600 MCM, (2) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
800A	(3) #4 AWG - 600 MCM, (3) #1/0 GND	(2) 300 - 800 MCM, (2) #2/0 GND	(2) 500 - 1000 MCM, (2) #2/0 GND	☐
1200A	(4) #4 AWG - 600 MCM, (4) #1/0 GND	(3) 300 - 800 MCM, (3) #2/0 GND	(3) 500 - 1000 MCM, (3) #2/0 GND	☐
1600A	(5) #4 AWG - 600 MCM, (5) #1/0 GND	(4) 300 - 800 MCM, (4) #2/0 GND	(4) 500 - 1000 MCM, (4) #2/0 GND	☐
2000A	(6) #4 AWG - 600 MCM, (6) #1/0 GND	(5) 300 - 800 MCM, (5) #2/0 GND	(5) 500 - 1000 MCM, (5) #2/0 GND	☐
2400A	(8) #4 AWG - 600 MCM, (8) #1/0 GND	(6) 300 - 800 MCM, (6) #2/0 GND	(6) 500 - 1000 MCM, (6) #2/0 GND	☐
2800A	(9) #4 AWG - 600 MCM, (9) #1/0 GND	(8) 300 - 800 MCM, (8) #2/0 GND	(7) 500 - 1000 MCM, (7) #2/0 GND	☐
3000A	(9) #4 AWG - 600 MCM, (9) #1/0 GND	(8) 300 - 800 MCM, (8) #2/0 GND	(7) 500 - 1000 MCM, (7) #2/0 GND	☐
3200A	(10) #4 AWG - 600 MCM, (10) #1/0 GND	(9) 300 - 800 MCM, (9) #2/0 GND	(8) 500 - 1000 MCM, (8) #2/0 GND	☐
3600A	(11) #4 AWG - 600 MCM, (11) #1/0 GND	(10) 300 - 800 MCM, (10) #2/0 GND	(9) 500 - 1000 MCM, (9) #2/0 GND	☐
4000A	(12) #4 AWG - 600 MCM, (12) #1/0 GND	(11) 300 - 800 MCM, (11) #2/0 GND	(9) 500 - 1000 MCM, (9) #2/0 GND	☐

VOLTAGE (LUG CONNECTIONS)		
CODE	VOLTAGE	SELECT
V1	120/240V (1PH + N + G)	☐
V2	240V (3PH + G)	☐
V3	208/120V (3PH + N + G)	☐
V4	480Y/277V (3PH + N + G)	☐
V5	480V (3PH + G)	☐
V6	600Y/347V (3PH + N + G)	☐
V7	600V (3PH + G)	☐

cULus LISTING	SELECT
UL 1008	☑
UL 1773	☐
UL 891	☐
SHORT CCT CURRENT RATING	**FILL**
SCCR	10 kA
CAMLOCK TYPE	**SELECT**
MALE	☑
FEMALE	☐

ENCLOSURE FEATURES	SELECT
ENCLOSURE TYPE	
TYPE 1	☐
TYPE 3R	☑
TYPE 4	☐
TYPE 4X	☐
ENCLOSURE CONSTRUCTION	
COLD ROLLED STEEL (CRS)	☑
5052 ALUMINUM	☐
304 STAINLESS STEEL	☐
316 STAINLESS STEEL	☐
POWDER COAT COLOUR	
STANDARD ASA 61 GREY	☑
OTHER COLOUR (SPECIFY IN NOTES)	☐

TABLE NOTE: *ONLY MAKE SELECTIONS ON VOLTAGE [LUG CONNECTION] TABLE FOR B2, CLC, M2F, OR M2N MODELS.

NOTES:

PART NO. FFCC-A2-200-T-U4-G-CRS-LA-AF

INCLUDED EQUIPMENT: 200A 3P MANUAL TRANSFER SWITCH C/W AUXILIARY CONTACTS, TERMINAL STRIP

REVISIONS			
REV.	DESCRIPTION	DATE	APPR.
1.0	FFCC SELECTION TABLES	2019-08-30	PG

Foxfab Power Solutions
2579-188 ST
SURREY, BC V3Z2A1
(604) 460-9310
WWW.FOXFAB.COM

TITLE

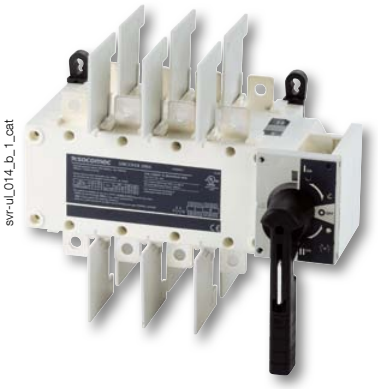
FOXFAB CONNECTION CABINETS SELECTION TABLES

JOB NO.	CLIENT	
–	–	
DRAWN BY	CHECKED BY	APPROVED
PG	–	
MODEL NO.		REV. 1
DRAWING NO. FF-SELECT-TABLES		SHEET NO. 01

SIRCOVER UL1008

Manually operated Transfer Switching Equipment

from 100 to 1200 A



svr-ul_014_b_1_cat

svr-ul_013_a_2_cat

Function

SIRCOVER UL1008/98 are heavy duty manual transfer switches. They ensure switching transfer of sources or transfer of two low voltage circuits on load as well as their safe disconnection.

These switches are extremely durable and are tested and approved for use in the most demanding applications, such as resitive load or total system applications.

Advantages

Stable positions

SIRCOVERs have three stable positions which are not affected by voltage drops or vibrations, thus protecting your load against network interference.

Compact design

The SIRCOVER are based on a back-to-back switching technology, providing a compact solution.

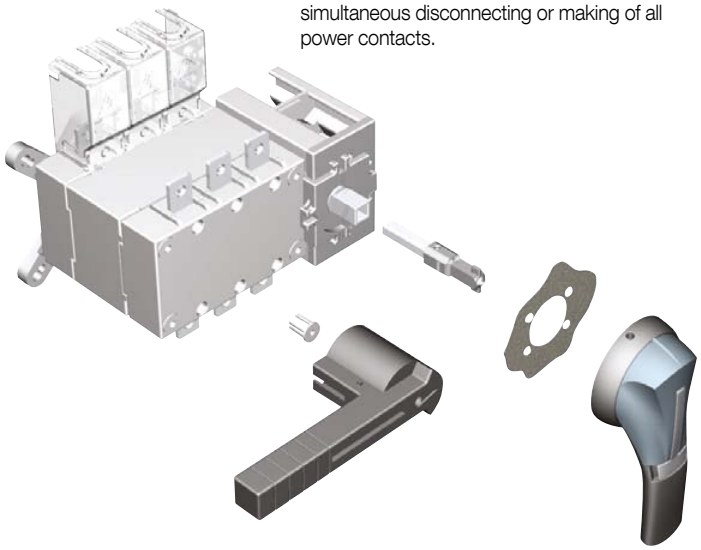
On-load switching

The SIRCOVER UL enables secure and reliable switching, without the need for pre-breaking upstream.

Reliability

The SIRCOVER has double breaking per pole acheived through its sliding bar contacts system.

The quick opening and rapid closure provides simultaneous disconnecting or making of all power contacts.



svr_136_a_2_cat

The solution for

- Manufacturing industry
- Power distribution
- Domestic

Strong points

- Stable positions
- Compact design
- On-load switching
- Reliability

Conformity to standards

- UL 1008, Guide WPYV, file 317092
- UL 98, Guide WHTY, file 201138
- CSA 22.2#4, Class 4651-02

UL 98 and CSA from 600-1200 A with 100-400 A on request with a specific reference.

Enclosed solutions

SOCOMEC offers a range of pre-equipped enclosures in steel or polyester.

Enclosed ***SIRCOVER***

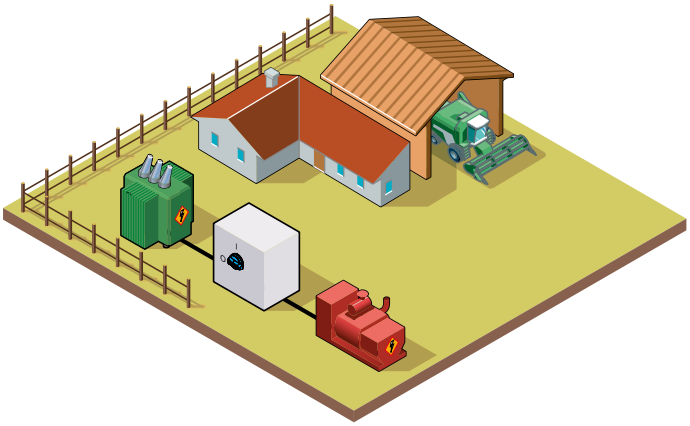
socomec Innovative Power Solutions

Typical application

The SIRCOVER UL 1008 range provides safe transfer and disconnection at all levels within your LV installation.
They can be used for changing motor phase for rotation control or equipmement grounding as well.

Normal power supply to genset transfer
The source transfer will be operated safely even under on-load or over-load conditions

svr-uL_017_a



SOCOMEC solution up to 1200 A

svr-uL_014_b_2_cat

UL 1008 Manual Transfer Switch
From **100 to 400 A** for resistive and total systems applications.
UL 98 versions on request

svr-uL_013_a_2_cat

UL 1008 and UL 98 Manual Transfer Switch
From **600 to 1200 A** for resistive and total systems applications.
Has UL 98/CSA 22.2#4 certification

IEC solution up to 3200 A

The SIRCOVER UL 1008 is part of a large range that includes an IEC products of standalone or enclosed manual transfer switches and manual bypass switches with overlapping options.
Contact us for further information on our complete range.

References

SIRCOVER UL 1008

Rating (A)	Frame size	No. of poles	Switch body	Direct handle	External handle	Shaft for external handle	Bridging bars	Auxiliary contacts	Terminal screens
100 A	B4	2 P	4150 **2012**	Black 4199 **4012**	S2 type Black I - 0 - II 4, 4X 142D **2113** Padlockable in all 3 positions 142D **2813**	S2 type 200 mm 7.9 inches 1400 **1020** 320 mm 12.6 inches 1400 **1032** 400 mm 15.7 inches 1400 **1040**	2 P 4159 **2021** 3 P 4159 **3021** 4 P 4159 **4021**	Contact NO/NC 4159 0021 Low level 4159 **0022**	2 / 3 P 4158 **3021** 4 P 4158 **4021**
		3 P	4150 **3012**						
		4 P	4150 **4012**						
200 A		2 P	4150 **2022**						
		3 P	4150 **3022**						
		4 P	4150 **4022**						
260 A	B5	2 P	4150 **2026**		S2 type Black I - 0 - II 4, 4X 142D **2113** S3 type Black I - 0 - II 4, 4X 143D **3113**	S3, S4 type 200 mm 7.9 inches 1401 **1520** 320 mm 12.6 inches 1401 **1532** 400 mm 15.7 inches 1401 **1540**	2 P 4159 **2041** 3 P 4159 **3041** 4 P 4159 **4041**		2 / 3 P 4158 **3041** 4 P 4158 **4041**
		3 P	4150 **3026**						
		4 P	4150 **4026**						
		2 P	4150 **2042**						
400 A		3 P	4150 **3042**						
		4 P	4150 **4042**						
600 A	B6	3 P	4150 **3060**	Black 4199 **7012**	S3 type Black I - 0 - II 4, 4X 143D **3113**		3 P 4159 **3063** 4 P 4159 **4063**	Contact NO/NC as standard	3 P 1609 **3063** 4 P 1609 **4063**
		4 P	4150 **4060**						
800 A	B7	3 P	4150 **3080**	Black 4199 **7062**	S4 type Black I - 0 - II 4, 4X 144D **3813**(1)		3 P 4159 **3080** 4 P 4159 **4080**		3 P 1609 **3080** 4 P 1609 **4080**
		4 P	4150 **4080**						
1200 A		3 P	4150 **3120**						
		4 P	4150 **4120**						

Accessories

Direct handle

Rating (A)	Type	Colour	Handle type	Reference
100 ... 400	B3	Black	1 lever	4199 **4012**
600	C2	Black	2 lever	4199 **7012**
800 ... 1200	V1	Metal	2 lever	4199 **7062**

B3 type *C2 type* *V1 type*

External handle

Rating (A)	Handle type	Colour	Nema type	Lockable in 3 positions	Reference
100 ... 200	S2	Black	4, 4X	no	142D **2113**
100 ... 200	S2	Red/Yellow	4, 4X	no	142E **2113**
100 ... 200	S2	Black	1, 3R, 12	no	142F **2113**
100 ... 200	S2	Red/Yellow	1, 3R, 12	no	142G **2113**
100 ... 200	S2	Black	4, 4X	yes	142D **2813**
100 ... 200	S2	Red/Yellow	4, 4X	yes	142E **2813**
100 ... 200	S2	Black	1, 3R, 12	yes	142F **2813**
100 ... 200	S2	Red/Yellow	1, 3R, 12	yes	142G **2813**
260 ... 600	S3	Black	4, 4X	no	143D **3113**
260 ... 600	S3	Red/Yellow	4, 4X	no	143E **3113**
260 ... 600	S3	Black	1, 3R, 12	no	143F **3113**
260 ... 600	S3	Red/Yellow	1, 3R, 12	no	143G **3113**
260 ... 600	S3	Black	4, 4X	yes	143D **3813**
260 ... 600	S3	Red/Yellow	4, 4X	yes	143E **3813**
260 ... 600	S3	Black	1, 3R, 12	yes	143F **3813**
260 ... 600	S3	Red/Yellow	1, 3R, 12	yes	143G **3813**
800 ... 1200	S4	Black	4, 4X	no	144D **3113**
800 ... 1200	S4	Black	1, 3R, 12	no	144E **3113**
800 ... 1200	S4	Black	1, 3R, 12	no	144E **3113**
800 ... 1200	S4	Red/Yellow	1, 3R, 12	no	144G **3113**
800 ... 1200	S4	Black	4, 4X	yes	144D **3813**
800 ... 1200	S4	Red/Yellow	4, 4X	yes	144E **3813**
800 ... 1200	S4	Black	1, 3R, 12	yes	144F **3813**
800 ... 1200	S4	Red/Yellow	1, 3R, 12	yes	144G **3813**
800 ... 1200	S5	Black	1, 3R, 12(1)	no	1453 **8113**
800 ... 1200	S5	Red/Yellow	1, 3R, 12(1)	no	1454 **8113**
800 ... 1200	V1	Black	1, 3R, 12(1)	no	4199 **7149**

(1) For 4, 4X please consult us.

Use

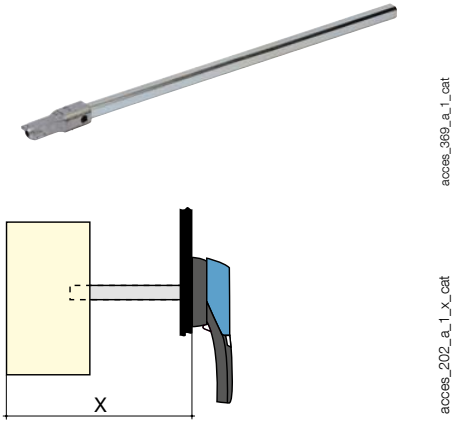
The handle interlocking function prevents the user from opening the door of the enclosure when the switch is in the "ON" position.

Opening the door when the switch is in the "ON" position is possible by defeating the interlocking function (not S5 and V handles) with the use of a tool (authorised persons only).

The interlocking function is restored when the door is re-closed.

Shaft for external handle

Rating (A)	Handle type	Length (in)	Length (mm)	Dimension (in)	Dimension (mm)	Reference
100 ... 200	S2	7.9	200	10 ... 14.3	254 ... 362	1400 **1020**
100 ... 200	S2	12.6	320	10 ... 19	254 ... 482	1400 **1032**
100 ... 200	S2	15.7	400	10 ... 22.1	254 ... 562	1400 **1040**
260 ... 400	S3	7.9	200	12 ... 18.4	305 ... 467	1401 **1520**
260 ... 400	S3	12.6	320	12 ... 23.1	305 ... 587	1401 **1532**
260 ... 400	S3	15.7	400	12 ... 26.3	305 ... 667	1401 **1540**
260 ... 400	S3	7.9	200	20 ... 23.4	508 ... 594	1401 **1520**
260 ... 400	S3	12.6	320	20 ... 28.1	508 ... 714	1401 **1532**
260 ... 400	S3	15.7	400	20 ... 31.3	508 ... 794	1401 **1540**
800 ... 1200	S4	7.9	200	20 ... 23.4	508 ... 594	1401 **1520**
800 ... 1200	S4	12.6	320	20 ... 28.1	508 ... 714	1401 **1532**
800 ... 1200	S4	15.7	400	20 ... 31.3	508 ... 794	1401 **1540**
800 ... 1200	V1 / S5	12.6	320	20 ... 28.1	508 ... 714	4199 **3018**
800 ... 1200	V1 / S5	15.7	400	20 ... 31.3	508 ... 794	4199 **3019**



Accessories (continued)

Bridging bars

Use

Creation of a common point, above or below the switch, between positions I and II.

Rating (A)	No. bridging bar	Reference
100 ... 200	2	4159 **2021**
100 ... 200	3	4159 **3021**
100 ... 200	4	4159 **4021**
260 ... 400	2	4159 **2041**
260 ... 400	3	4159 **3041**
260 ... 400	4	4159 **4041**
600	3	4159 **3063**
600	4	4159 **4063**
800 ... 1200	3	4159 **3080**
800 ... 1200	4	4159 **4080**

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Terminal protection screen

Use

Top or bottom protection against direct contact with terminals or connecting parts.

Rating (A)	No. of poles	Reference
100 ... 200	2P / 3P	4158 **3021**
100 ... 200	4 P	4158 **4021**
260 ... 400	2P / 3P	4158 **3041**
260 ... 400	4 P	4158 **4041**
600	6 P	1609 **3063**
600	4 P	1609 **4063**
800 ... 1200	3 P	1609 **3080**
800 ... 1200	4 P	1609 **4080**

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Auxiliary contacts

Use

Pre-break and signalisation of positions .
For low level ACs and other ACs contact us.

Electrical characteristics

A300.

NO/NC auxiliary contact

Rating (A)	Contact (s)	Reference
100 ... 400	NO/NC on position 1 and 2	4159 **0021**
100 ... 400	Low level NO/NC on position 1 and 2	4159 **0022**
600 ... 1200	NO/NC on position 1 and 2	included

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Terminal lugs

Use

Connection of bare copper cables onto the terminals (without lugs).

Rating (A)	Wires range	No wires per lug	Lugs per kit	Wires	Reference
100 ... 200	6 - 300MCM	1	2	Cu / Al	3954 **2020**
100 ... 200	6 - 300MCM	1	3	Cu / Al	3954 **3020**
100 ... 200	6 - 300MCM	1	4	Cu / Al	3954 **4020**
260 ... 400	4 - 600MCM	1	2	Cu / Al	3954 **2040**
260 ... 400	4 - 600MCM	1	3	Cu / Al	3954 **3040**
260 ... 400	4 - 600MCM	1	4	Cu / Al	3954 **4040**
600	2x (#2 - 600MCM)	2	3	Cu / Al	3954 **3060**
600	2x (#2 - 600MCM)	2	4	Cu / Al	3954 **4060**
800 ... 1200(1)	2x 2x(#2 - 600MCM)	2	6	Cu / Al	3954 **3120**
800 ... 1200(1)	2x 2x(#2 - 600MCM)	2	8	Cu / Al	3954 **4120**

(1) To be used to connect 4 wires on one terminal. In such a case, 2 lugs are placed side-by-side on one terminal. Please refer to dimensions diagram

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Characteristics

Characteristics according to UL 1008

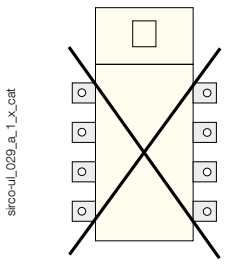
General use rating (A)	100 A	200 A	260 A	400 A	600 A	800 A	1200 A
Frame size	**B4**		**B5**		**B6**	**B7**	
Operation voltage 2 P - 3/4 P	240/600	240/600	240/600	240/600	-/600	-/600	-/600
Short circuit rating at 600 VAC with fuses (kA)							
Short circuit rating at 600 VAC (kA)	100	100	100	100	100	100	100
Type of fuse	J	J	J	J	L	L	L
Short circuit rating at 600 VAC with “Specific Circuit Breaker” (kA)							
Square D JJ breaker 250 A - 2 P 240 VAC - 3/4 P 480 VAC	65	65	-	-	-	-	-
Schneider Electric NSX-F 160 A - 3/4 P 480 VAC	35	-	-	-	-	-	-
Short circuit rating at 600 VAC with “Any Breaker” (kA)							
Short circuit rating (kA)	10	10	14	14	35	35	35
Short circuit capacity (ms)	25	25	50	50	50	50	50
Rated operational current							
240 VAC “Total System” (A)	100	200	260	400	400	700	700
240 VAC resistive load (A)	100	200	260	400	600	800	1200
480 VAC “Total System” (A)	100	100	260	400	350	600	600
480 VAC resistive load (A)	100	200	260	400	600	800	1200
600 VAC “Total System” (A)	100	100	200	200	-	-	-
600 VAC resistive load (A)	100	200	260	400	600	800	1200
Mechanical endurance							
Endurance (number of operating cycles)	6050	6050	6050	4050	3050	3050	3050
Connection terminals							
Min. connection section / AWG	#6	#6	#4 / 2 X 1 /0	#4 / 2 X 1 /0	2 x #2	2 x #2	4 x #2
Max. connection section / AWG	300MCM	300MCM	600MCM / 2 X 250MCM	600MCM / 2 X 250MCM	2x 600MCM	2x 600MCM	4 x 600MCM

Characteristics according to UL 98/CSA 22.2#4

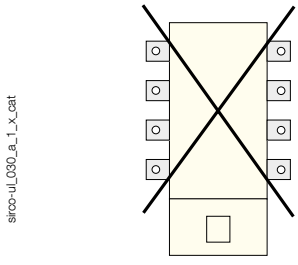
General use rating at 600 VAC and 250 VDC (A)	Specific reference upon request				600 A	800 A	1200 A
Frame size					**B6**	**B7**	
Short-circuit rating at 600 VAC (kA)	-	-	-	-	200	100	100
Type of fuse	-	-	-	-	J	L	L
Max. fuse rating (A)	-	-	-	-	600	800	1200
Max. motor, hp / FLA 3 ph motor max.							
220-240 VAC	-	-	-	-	200 / 480	-	-
440-480 VAC	-	-	-	-	400 / 477	-	-
600 VAC	-	-	-	-	500 / 472	-	-
Mechanical characteristics							
Endurance (number of operating cycles)	-	-	-	-	5000	3500	2500
Operating torque (lbs.in/Nm)	-	-	-	-	327.5/37	442.5/50	442.5/50
Auxiliary contacts							
Electrical characteristics	A300	A300	A300	A300	A300	A300	A300

Mounting orientation

100 to 400 A / B4 - B5

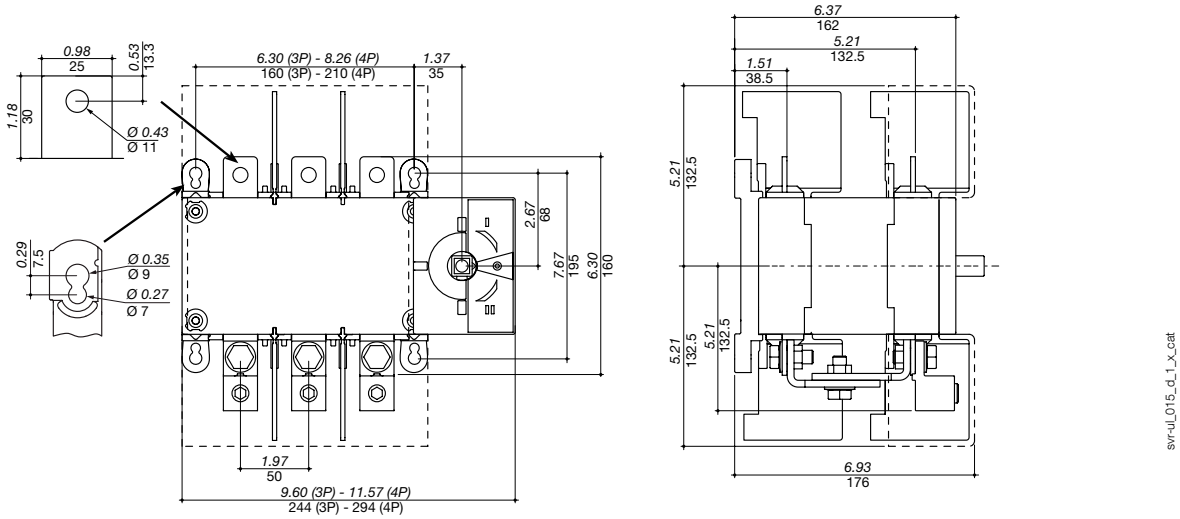


600 to 1200 A / B6 - B7

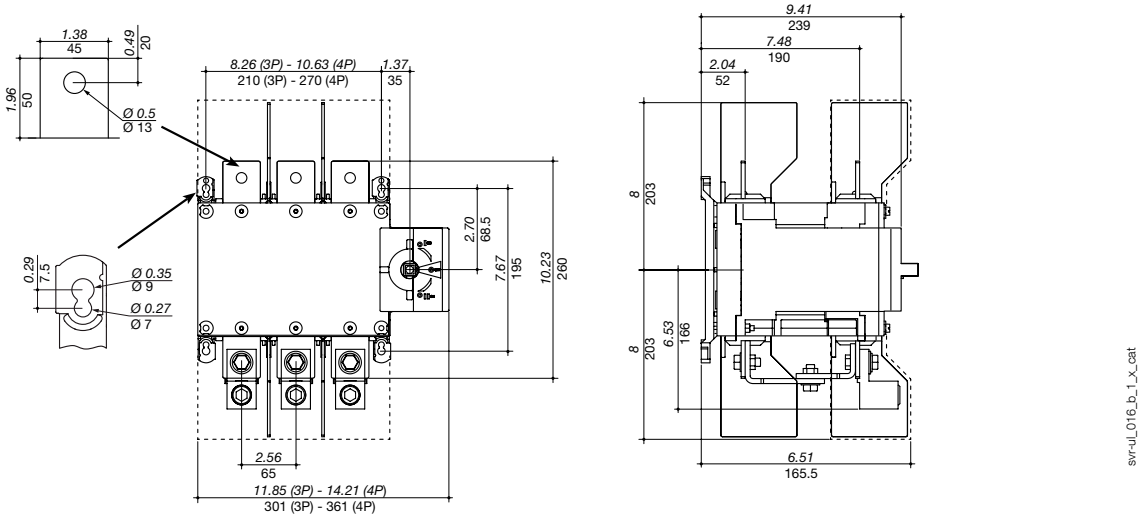


Dimensions (in/mm)

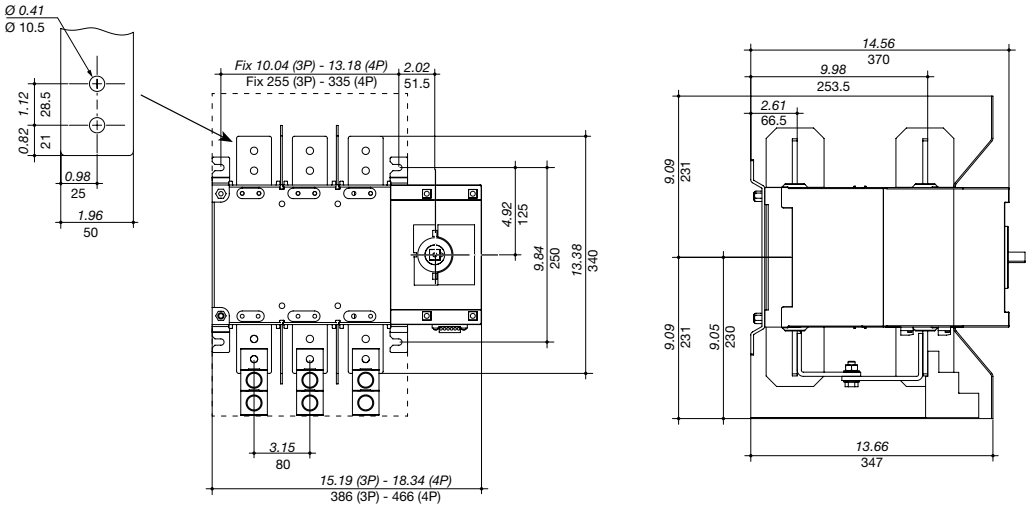
100 to 200 A / B4



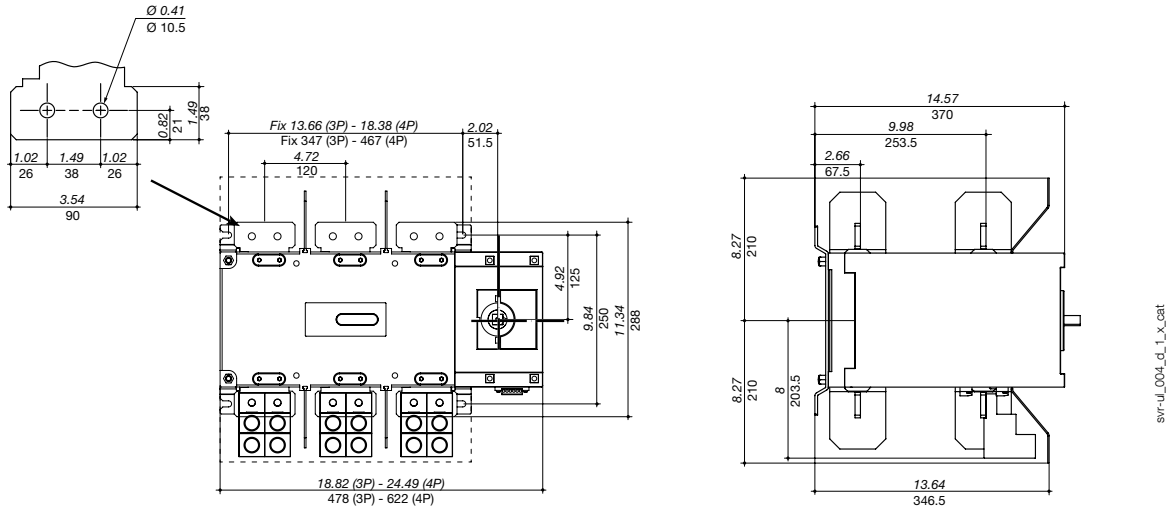
260 to 400 A / B5



600 A / B6

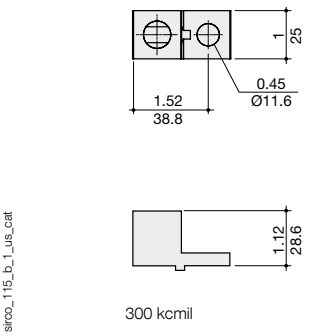


800 to 1200 A / B7

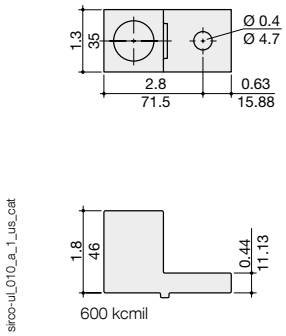


Terminal lugs (in/mm)

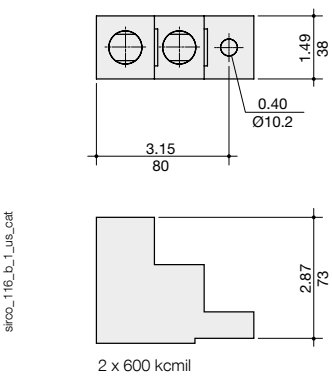
100 to 200 A / B4



260 to 400 A / B5

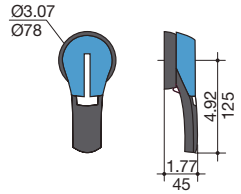
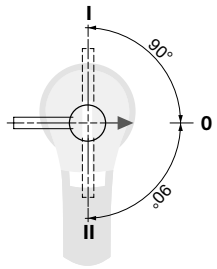
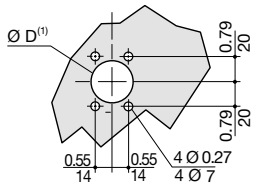


600 to 1200 A / B6 - B7

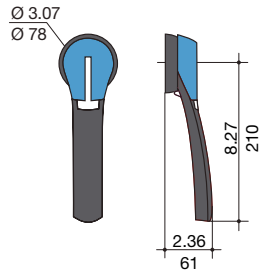
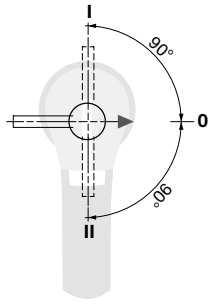
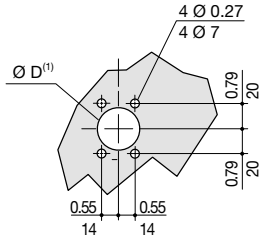


External handles dimensions (in/mm)

100 and 200 A / B4

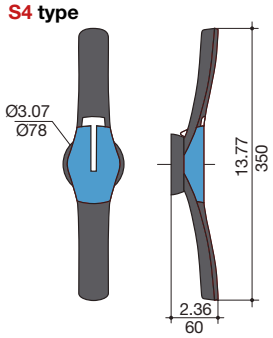
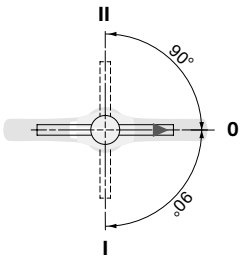
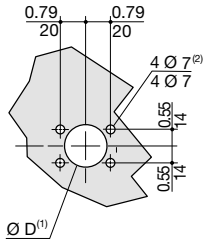
Handle type	Front operation Direction of operation	Door drilling
S2 type 		

260 and 600 A / B5 - B6

Handle type	Front operation Direction of operation	Door drilling
S3 type 		

External handles dimensions (in/mm) (continued)

800 to 1200 A / B7

Handle type	Front operation Direction of operation	Door drilling
S4 type 		

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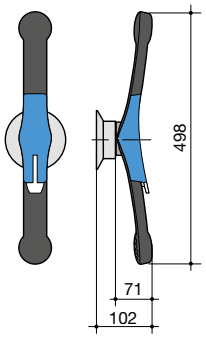
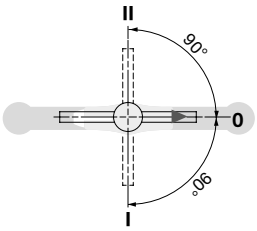
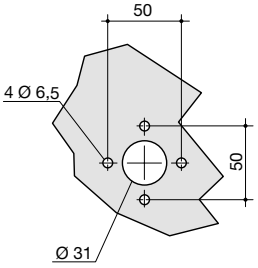
Handle type	Front operation Direction of operation	Door drilling
S5 type with V Escutcheon 		

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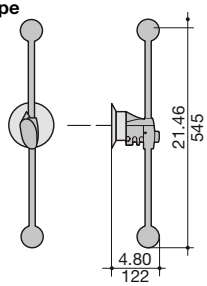
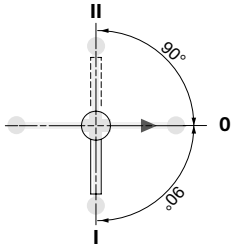
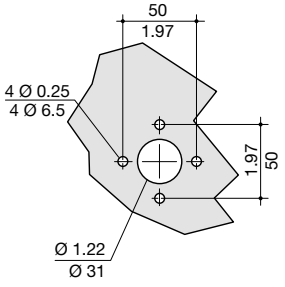
Handle type	Front operation Direction of operation	Door drilling
V1 type 		

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