

# SCSR portable combination motor starter receptacles

UL/cUL Listed  
NEMA 3R, 4 (Painted Steel)  
NEMA 4X (316 Stainless Steel)

1C

Portable industrial combination starters with smart communication

## Applications:

The SCSR incorporates a combination starter with a receptacle for quick connect motor control and fault diagnostics. It provides equipment protection from overload and short circuit conditions, while offering local and remote motor control, preventing energization under all preceding conditions, and connectivity via a wireless gateway or the hardwire. The SCSR smart combination motor starter receptacle offers a wide range of protection devices and is suitable for the following applications:

- Industrial manufacturing
- Marine
- Food and beverage
- Pharmaceutical
- Chillers and HVAC air handlers
- OEM skid manufacturers
- Portable power/power generation
- Oil and gas

## Features:

- Overload and short circuits protection with a receptacle for emergency and portable loads
- Mechanically interlocked door – flange handle mechanism is provided with a latch inside the door to lock the door when in ON position
- Straight through wiring with line lugs at the top, load lugs at the bottom
- Option between NEMA Freedom series starter and IEC XT series starter with padlockable fusible switches or MCPs/thermal-magnetic circuit breakers
- Rugged 30mm 10250T pilot devices are used with selectable cover control options
- CPT (Control Power Transformer) option available to step down primary voltage to secondary voltage, which supplies secondary power to controlled components
- Ambient operating temperature: -25°C to +55°C (vs. NEC standard operating temperature of -10°C to + 40°C)

### Receptacle:

- Factory installed Crouse-Hinds series receptacles: NEC Arkrite™ and PowerMate™ in 30A-200A, IEC 60309 AH series in 20A-100A
- Innovative E-Lock™ electrical interlock system automatically switches off when the plug is removed under load and does not allow switching on when a plug is not engaged (prevents current flow to the receptacle when the plug is not connected)

### C440 overload relay:

- Electronic design provides improved capabilities versus thermal overload relays
- Status LED provides visual notification of impending trip
- Faster response time under phase loss and phase unbalance conditions
- Built-in ground fault protection capabilities, eliminating the need to purchase and install separate CT's and ground fault modules
- Solid state electronic overload providing reliable, accurate and value-driven protection while helping reduce inventory carrying costs with wide FLA adjustment (5:1) and selectable trip class

### Optional C445 overload relay:

- Configurable load and motor system coverage using advanced monitoring and protection algorithms
- Multiple pre-defined operating modes (Setup for Direct Operation Mode by default)
- User interface door mounted display included
- Power Xpert in control configuration and monitoring software tool
- Four digital 120 VAC inputs
- Three relay 120 VAC outputs: 2NO, 1NO/NC
- Communication options



## Features (continued):

- Modbus RTU (standard)
- Ethernet (requires field installable C445XC-E Ethernet module)
- PROFIBUS (requires field installable C445XC-P Profibus module)

### Options available through the ETO team (contact factory if needed):

- Real-time clock (RTC)
- Back-up non-volatile memory
- Positive temperature coefficient (PTC)
- Ground fault module with zero sequence CTs
- Integrated logic engine with expandable digital or analog I/O
- Thermocouple input

## Certifications and compliances:

- UL Listed to UL508A and cUL
- NEMA 3R: 200A (painted steel)
- NEMA 4 (painted steel)
- NEMA 4X (316 stainless steel)

## Standard materials:

- Enclosure, external hardware – 316 stainless steel, painted steel
- External latching hardware – chrome-plated steel
- Internal mounting plate – powder coated steel
- Internal hardware – zinc-plated steel

# SCSR portable combination motor starter receptacles

UL/cUL Listed  
NEMA 3R, 4 (Painted Steel)  
NEMA 4X (316 Stainless Steel)

1C

Portable industrial combination starters with smart communication

## Electrical ratings:

- Motor starters:
    - Single-, three-phase
    - Full voltage, non-reversing
    - NEMA sizes 00 - 5
    - IEC sizes 7A-185A
    - Up to 150 HP
  - MCP circuit breakers:
    - 3-pole, 600 VAC
    - 3A through 250A
  - Thermal magnetic circuit breakers:
    - 3-pole, 600 VAC
    - 15A through 225A
  - Disconnect switches:
    - 3-pole, 600 VAC
    - 30A through 400A
- 10 kA RMS short circuit rating (480V breakers, fused disconnects)

## SCSR configurations – enclosure sizes:

Product type	Overload type	Enclosure size				
		Size A	Size B	Size C	Size D	Size E
NEMA	C440	NEMA sizes 00-2: FD, NFD, MCP, CB	–	NEMA size 3: FD, NFD	NEMA size 4: FD, NFD	NEMA size 5: FD, NFD, MCP, CB
	C445	–	NEMA sizes 00-2: FD, NFD, MCP, CB	NEMA sizes 3-4: MCP, CB	–	–
IEC	XTOE	7-25A: FD, NFD	7-32A: MCP, CB	32-50A: FD, NFD	65-80A: FD, NFD	–
	C445	–	7-25A: FD, NFD, CB, MCP	40-65A: MCP, CB	80A: MCP, CB	–
Hybrid	XTOE	7-32A: FD, NFD, MCP, CB	–	40-80A: FD, NFD	95-150A: FD, NFD	170-185A: FD, NFD, MCP, CB
	C445	–	7-32A: FD, NFD, MCP, CB	40-150A: MCP, CB	–	–

**Note:** FD = fusible disconnect; NFD = non-fusible disconnect; MCP = motor circuit protector; CB = circuit breaker; Hybrid = IEC starter with NEC receptacle.

# Power Xpert C445

## intelligent motor management relays



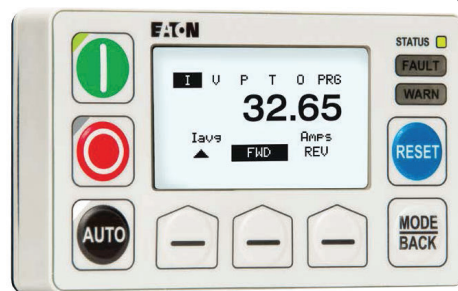
### Base module with field installable communication card:

The core of the C445 system, the base control module contains all of the protection, monitoring and control algorithms in addition to on-board I/O. An interchangeable communication card slot allows for various communications with a single base unit.



### Measurement module:

The pass-through design measurement module samples current, voltage, power and energy data consumed by the electric motor and continuously passes it electronically to the base control module via a cable connection.



### User interface:

Door mounted display enables safe and complete device diagnostics and parameter setting without opening the MCC door. Contextual LCD buttons provide intuitive navigation through monitoring menus. Optionally use control buttons for compact local control without the need for hardwiring.

The SCSR smart combination motor starter receptacle with C445 motor management intelligence relay offers industry-leading protection, diagnostics and energy usage analytics. Advanced motor management, extensive communications, superior diagnostics, integrated logic, ground fault detection and protection make SCSR smart combination motor starter receptacle with C445 option ideal for critical motor applications where uptime is key.

1C

# SCSR portable combination motor starter receptacles

UL/cUL Listed  
NEMA 3R, 4 (Painted Steel)  
NEMA 4X (316 Stainless Steel)

1C

Portable industrial combination starters with smart communication

## Ordering information:

Part number example

ECR2429CDL-33PR64/D B11

EC
R
24
2
9
C
D
L
-
33P
R64/D
B11

**Prefix**

EC	Enclosed control
----	------------------

**Design**

R	Receptacle
---	------------

**Combo starter function**

16	NEMA combination non-reversing starter – fusible/non-fusible disconnect
18	NEMA combination non-reversing starter – fusible/non-fusible disconnect, with CPT
22	NEMA combination non-reversing starter – MCP/thermal-magnetic circuit breaker
24	NEMA combination non-reversing starter – MCP/thermal-magnetic circuit breaker, with CPT
19	IEC combination non-reversing starter – fusible/non-fusible disconnect
21	IEC combination non-reversing starter – fusible/non-fusible disconnect, with CPT
25	IEC combination non-reversing starter – MCP/thermal-magnetic circuit breaker
27	IEC combination non-reversing starter – MCP/thermal-magnetic circuit breaker

**NEMA starter size**

A	Size 00
0	Size 0
1	Size 1
2	Size 2
3	Size 3
4	Size 4
5	Size 5

**IEC starter size**

B	7A
C	9A
D	12A
E	15A
F	18A
G	25A
H	32A
J	40A
K	50A
L	65A
M	80A
N	95A
P	115A
Q	150A
R	170A
S	185A

**Note:** Can only be selected with the combo starter function 19, 21, 25 or 27.

**Coil voltage**

A	120V, 60 Hz - 110V, 50 Hz
---	---------------------------

**CPT voltage (primary / secondary)**

B	240V/120V
C	480V/120V
D	600V/120V

**Enclosure type**

2	NEMA 3R – rainproof (with 200A Arkrite receptacle)
3	NEMA 4 – watertight (with painted steel Arkrite receptacle)
9	NEMA 4X – watertight (with 316 stainless steel PowerMate receptacle)

**Cover control**

D	STOP/START pushbutton with red RUN and green OFF lights
U	STOP/START SS with red RUN and green OFF lights
K	HAND/OFF/AUTO SS with red RUN and green OFF lights
R	Red RUN and green OFF lights (available with C445 only)

**Circuit breaker ratings (MCP)**

A	None	F	50A
B	3A	W	70A
C	7A	G	100A
D	15A	H	150A
E	30A	J	250A

**Disconnect fuse clip ratings (Class J or R required)**

A	None
B	30A/250V R
C	30A/600V R or J
D	60A/250V R
E	60A/600V R or J
F	100A/250V R
G	100A/600V R or J
H	200A/250V R
J	200A/600V R or J
K	400A/250V R
L	400A/600V R or J

**Note:** Select F1 suffix for J type fuses.

**Circuit breaker ratings (thermal-magnetic)**

A	None	L	70A
B	15A	M	80A
C	20A	N	100A
D	25A	O	110A
E	30A	P	125A
F	35A	Q	150A
G	40A	R	175A
H	45A	S	200A
J	50A	T	225A
K	60A	U	90A

**Note:** Select B11 for thermal-magnetic breakers.

**Receptacle configuration**

22A	2P, 2W NEC Arkrite
33A	3P, 3W NEC Arkrite
23A	2P, 3W NEC Arkrite
34A	3P, 4W NEC Arkrite
22P	2P, 2W NEC PowerMate
33P	3P, 3W NEC PowerMate
23P	2P, 3W NEC PowerMate
34P	3P, 4W NEC PowerMate
23I	2P, 3W IEC
34I	3P, 4W IEC

**Overload range**

R64/A	C440 0.33-1.65A with ground fault
R64/B	C440 1-5A with ground fault
R64/C	C440 4-20A with ground fault
R64/D	C440 9-45A with ground fault
R64/E	C440 20-100A with ground fault
R64/F	C440 28-140A or 35-175A (for hybrid/IEC) with ground fault
R64/G	C440 60-300A with ground fault
R65/A	C445 0.3-2.4A (45mm MM) with ground fault
R65/B	C445 1-5A (45mm MM) with ground fault
R65/C	C445 4-32A (45mm MM) with ground fault
R65/D	C445 6-45A (45mm MM) with ground fault
R65/E	C445 9-72A (55mm MM) with ground fault
R65/F	C445 11-90A (90mm MM) with ground fault
R65/G	C445 17-136A (90mm MM) with ground fault
R66/A	C445 0.3-2.4A (45mm MM) with ground fault module and zero sequence CTs
R66/B	C445 1-5A (45mm MM) with ground fault module and zero sequence CTs
R66/C	C445 4-32A (45mm MM) with ground fault module and zero sequence CTs
R66/D	C445 6-45A (45mm MM) with ground fault module and zero sequence CTs
R66/E	C445 9-72A (55mm MM) with ground fault module and zero sequence CTs
R66/F	C445 11-90A (90mm MM) with ground fault module and zero sequence CTs
R66/G	C445 17-136A (90mm MM) with ground fault module and zero sequence CTs

**Mod codes**

B11	Thermal-magnetic breaker <sup>A</sup>
E22	NEC receptacle (hybrid)
E23	Angled adapter
F1	Change fuse clips in position eight to Class J
S29	Single-phase

<sup>A</sup> If you select this modification, choose from the associated table.

# SCSR portable combination motor starter receptacles

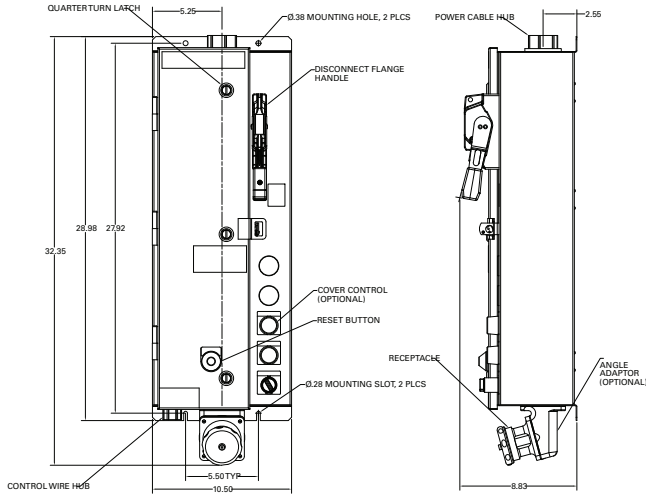
UL/cUL Listed  
NEMA 3R, 4 (Painted Steel)  
NEMA 4X (316 Stainless Steel)

1C

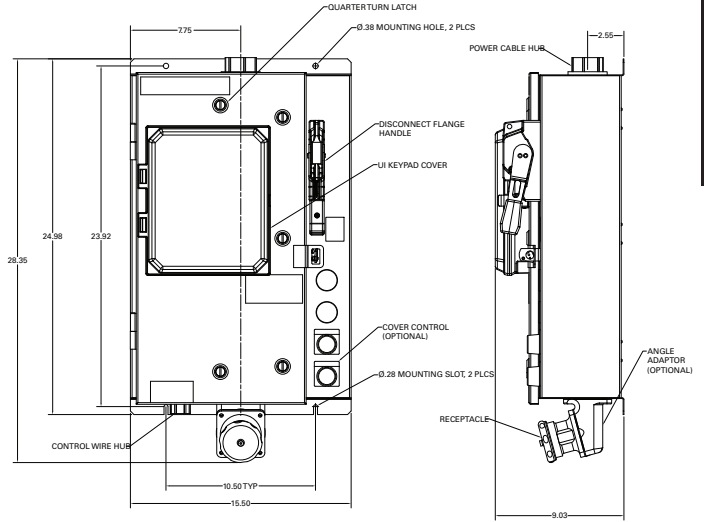
Portable industrial combination starters with smart communication

## Dimensions (in inches):

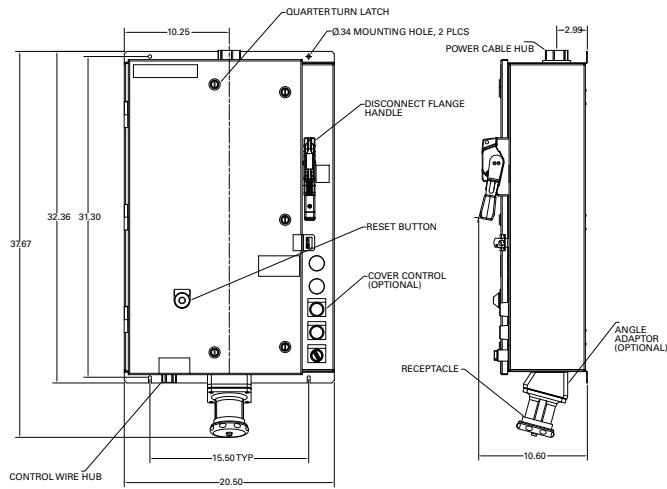
Box A enclosure



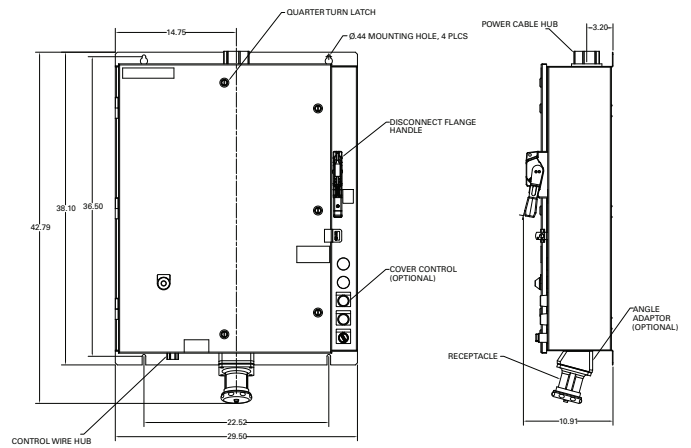
Box B enclosure



Box C enclosure



Box D enclosure



1C

# SCSR portable combination motor starter receptacles

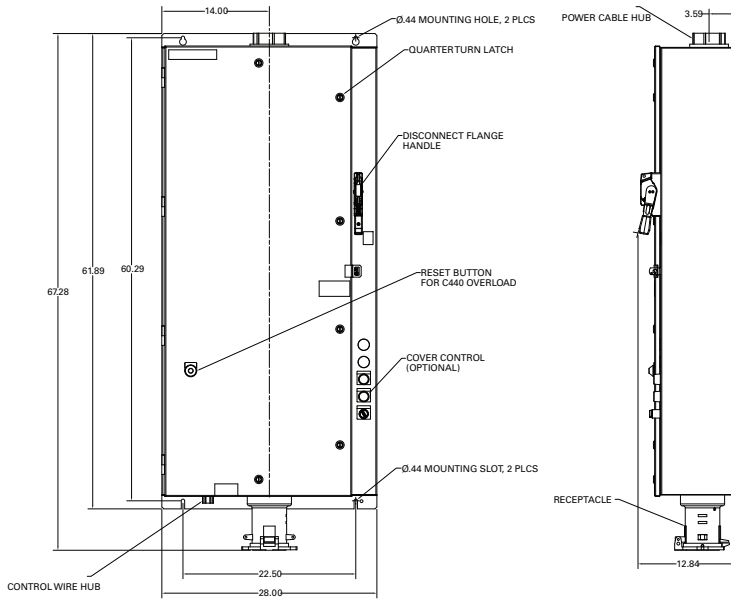
UL/cUL Listed  
NEMA 3R, 4 (Painted Steel)  
NEMA 4X (316 Stainless Steel)

1C

Portable industrial combination starters with smart communication

## Dimensions (in inches) (continued):

### Box E enclosure



Enclosure size	Angle adapter	C445 display cover	Receptacle amperage	Width (in.)	Height (in.)	Depth (in.)
A	NO	NO	30	10.50	30.82	8.68
A	YES	NO	30	10.50	32.44	8.68
A	NO	NO	60	10.50	32.18	8.68
A	YES	NO	60	10.50	34.24	8.68
B	NO	YES	30	15.50	26.75	9.03
B	YES	YES	30	15.50	28.44	9.03
B	NO	YES	60	15.50	28.18	9.03
B	YES	YES	60	15.50	30.24	9.03
C	NO	NO	60/100/150	20.50	35.59	10.45
C	YES	NO	60/100/150	20.50	37.67	10.45
C	NO	YES	60/100/150	20.50	35.59	10.81
C	YES	YES	60/100/150	20.50	37.67	10.81
C	NO	YES	200	20.50	38.54	10.81
C	NO	NO	200	20.50	38.54	10.45
D	NO	NO	100/150	29.50	40.72	10.76
D	YES	NO	100/150	29.50	42.90	10.76
D	NO	YES	100/150	29.50	40.72	11.12
D	YES	YES	100/150	29.50	42.90	11.12
D	NO	YES	200	29.50	43.67	11.12
D	NO	NO	200	29.50	43.67	10.76
E	NO	YES	200	28.00	67.32	13.05
E	NO	NO	200	28.00	67.32	12.69