

Mini Power-Zone™ Unit Substation

7440CT0901R04/20

Catalog

Class 7440
Release date 04/2020



by Schneider Electric

Legal Information

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this guide are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owners.

This guide and its content are protected under applicable copyright laws and furnished for informational use only. No part of this guide may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the guide or its content, except for a non-exclusive and personal license to consult it on an "as is" basis. Schneider Electric products and equipment should be installed, operated, serviced, and maintained only by qualified personnel.

As standards, specifications, and designs change from time to time, information contained in this guide may be subject to change without notice.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any errors or omissions in the informational content of this material or consequences arising out of or resulting from the use of the information contained herein.

Table of Contents

Product Description	5
General Information.....	6
Single Phase Unit Substation	7
Three Phase Unit Substation.....	8
Selection Tables.....	9
Enclosure Drawings	14
Wiring Diagrams	20
Additional Information	21
Product Specifications	23

Product Description

The Mini Power-Zone Unit Substation from Schneider Electric is a miniaturized version of our PowerZone Unit Substation. Included are:

- Primary Main Circuit Breaker
- Sealed Step-Down Transformer
- Secondary Main Circuit Breaker
- Distribution Panelboard

Because the Mini Power-Zone Unit Substation is furnished as a complete package, considerable savings in installation time and costs can be realized.

Features

- Type 3R enclosure; suitable for both indoor and outdoor use
- Rated for Service Entrance use
- 185°C (365°F) insulation with 115°C (239°F) temperature rise
- Sealed, epoxy-resin encapsulated transformer
- Panel section has copper bus and uses Square D™ brand QO™ style circuit breakers
- UL Listed per UL 1062 File E92978, limited to primary and secondary voltages shown in *Selection Tables*

Mini Power-Zone centers are furnished with factory-installed primary main and secondary main circuit breakers only. Circuit breaker ratings are selected to meet National Electrical Code (NEC) requirements and to coordinate with transformer magnetizing inrush current.

Feeder circuit breakers are standard QO plug-on type, bolt-on option available, which can be ordered, as required, from the local Schneider Electric distributor. If ground fault protection is required, Square D brand QwikGard™ circuit breakers may be used in all sizes. **Tandem circuit breakers are not permitted.**

Typical Applications

- Small shopping centers
- Portable offices
- Assembly lines
- Construction sites
- Emergency power
- Temporary power
- Guard shacks/other shacks
- Retail
- Areas with limited space

The Mini Power-Zone Unit Substation uses a separate transformer and panelboard section. This allows the panel section to be removed and wired first, if desired. Also the transformer can be replaced without disturbing the panel section and associated wiring. The new transformer simply slides into the top of the panel section, and the primary and secondary leads are reconnected to the main circuit breakers.

General Information

Available in single and three phase configurations:

- Single phase configuration supplies a 120/240 branch panelboard
- Three phase configuration supplies a 208Y/120 branch panelboard

Two panelboard options for Mini Power-Zone products protected by a backfeed (secondary main) circuit breaker:

- QO load center interior (MPZ prefix); branch circuit accepts QO (plug-on) circuit breakers only
- NQ panelboard interior (MPZB prefix); branch circuit accepts QO or QOB (bolt-on) circuit breakers

Available in multiple interrupting ratings, based on the customer's available fault current.

- FAL primary main for 18 kAIC
- FHL primary main for 25 kAIC
- HJ primary main (480 V only) for 65 kAIC; only available with the MPZB option

A shunt trip option can be added to the primary main circuit breaker.

Two choices of enclosure material:

- Powder coat painted, standard hot-rolled steel
- Powder coat painted, 304 stainless steel

All designs are Type 3R rated for indoor/outdoor use.

For NEMA Type 4X applications—product must be ordered as three separate components.

- Type 4X enclosed circuit breakers
- Type 4X encapsulated transformer
- Type 4X NQ panelboards

NOTE: Cannot be obtained as Unit Substation / Integrated Solution.

Seismic Certification:

Mini Power-Zone (MPZB)—solution with bolt-on branch circuit breakers is compliant with the seismic requirements of ASCE/SEI 7, self-certified to ICS ES AC 156 by SHAKE TABLE QUALIFICATION TESTING.

MPZB units are OSHPD Special Seismic Certified Pre-approved. (OSP). Labels available from Schneider Electric: order part number 7400CAOSHPDMPZB.

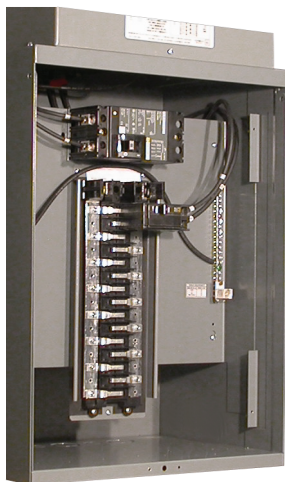
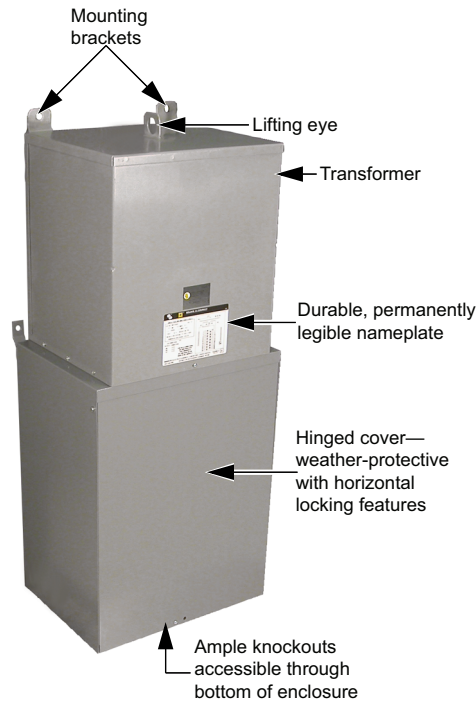
Single Phase Unit Substation

The single phase Mini Power-Zone Unit Substation is UL Listed for indoor and outdoor applications.

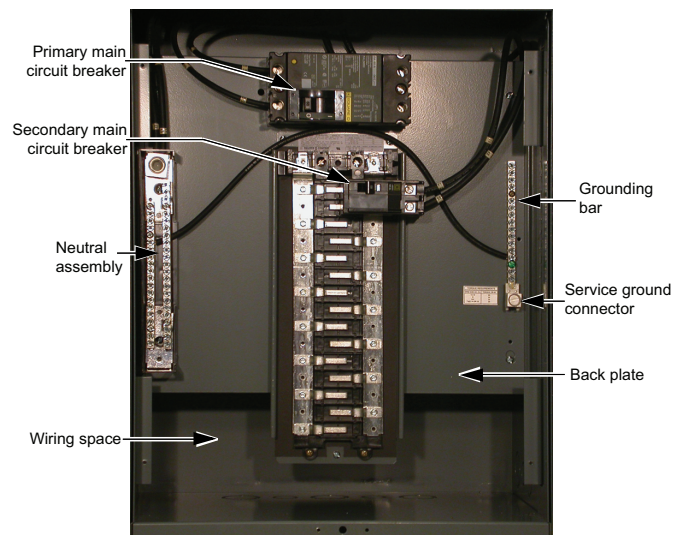
Standard Square D brand QO plug-on branch circuit breakers or Qwik-Gard ground fault circuit breakers may be ordered from any Schneider Electric distributor as required.

Shunt trip capability on the primary circuit breaker is available by special order if your local fire department requires remote tripping provisions where used as service equipment.

UL Listed, electrostatically shielded Mini Power-Zone units are also available by special order.



Interior view showing primary main, secondary main, and plug-on panel



Three Phase Unit Substation

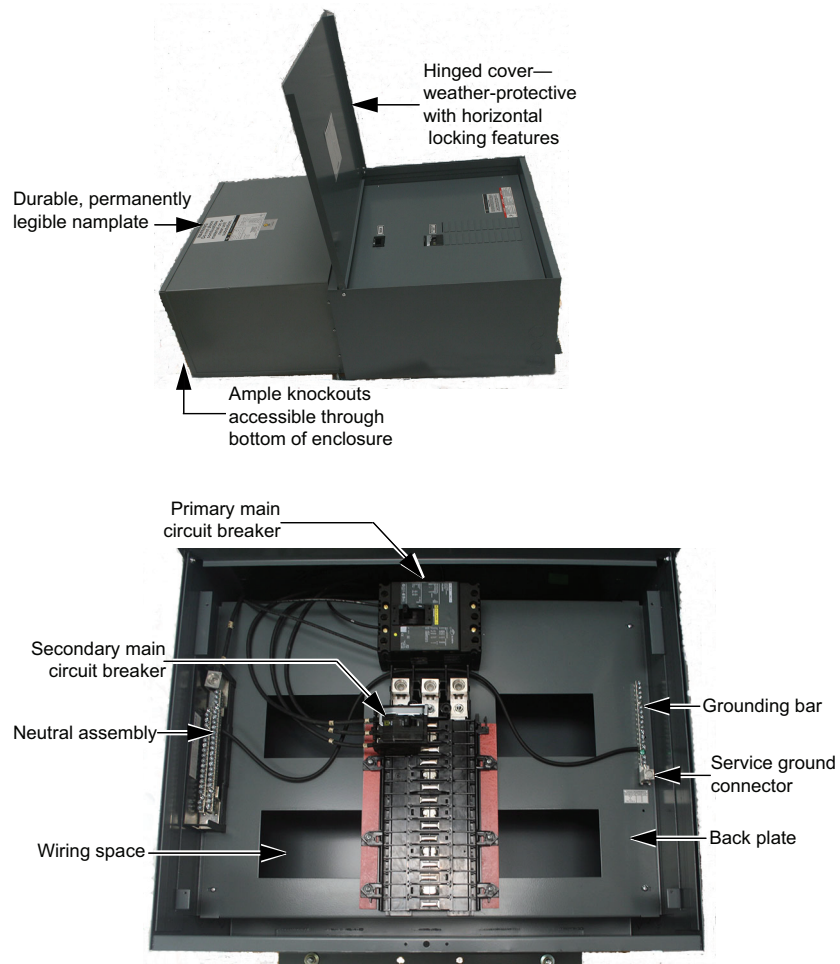
The three phase Mini Power-Zone Unit Substation is UL Listed for indoor and outdoor applications.

Standard Square D brand QO plug-on branch circuit breakers or Qwik-Gard™ ground fault circuit breakers may be ordered from any Schneider Electric distributor as required.

Shunt trip capability on the primary circuit breaker is available by special order if the local fire department requires remote tripping provisions where used as service equipment.

UL Listed, electrostatically shielded Mini Power-Zone units are also available by special order.

- Battery Test
- Runtime Calibration
- Annunciators
- Display Calibration



Selection Tables

NOTE: The enclosure drawings referenced in the Enclosure column of the selection tables are shown on the following pages. The wiring diagrams referenced in the selection tables are shown in *Wiring Diagrams*.

Single Phase

480 Volt Primary, Load Center Interior, Interrupting Rating 18 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
3	MPZ3S40F	FAL24015	QO215	10	5	20	A	I
5	MPZ5S40F	FAL24015	QO230	10	5	20	A	I
7.5	MPZ7S40F	FAL24020	QO240	10	5	30	A	I
10	MPZ10S40F	FAL24030	QO260	10	5	40	A	I
15	MPZ15S40F	FAL24060	QO280	24	12	60	B	I
25	MPZ25S40F	FAL24100	QO2125	24	12	100	B	I

480 Volt Primary, NQ Panelboard Interior, Interrupting Rating 18 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
3	MPZB3S40F	FAL24015	QOB215	10	5	20	A	I
5	MPZB5S40F	FAL24015	QOB230	10	5	20	AA	I
7.5	MPZB7S40F	FAL24020	QOB240	10	5	30	AA	I
10	MPZB10S40F	FAL24030	QOB260	10	5	40	AA	I
15	MPZB15S40F	FAL24060	QOB280	24	12	60	BB	I
25	MPZB25S40F	FAL24100	QOB2125	24	12	100	BB	I

480 Volt Primary, Load Center Interior, Interrupting Rating 25 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
3	MPZ3S40F25K	FHL26015	QO215	10	5	20	A	I
5	MPZ5S40F25K	FHL26015	QO230	10	5	20	A	I
7.5	MPZ7S40F25K	FHL26020	QO240	10	5	30	A	I
10	MPZ10S40F25K	FHL26030	QO260	10	5	40	A	I
15	MPZ15S40F25K	FHL26060	QO280	24	12	60	B	I
25	MPZ25S40F25K	FHL26100	QO2125	24	12	100	B	I

480 Volt Primary, NQ Panelboard Interior, Interrupting Rating 25 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
3	MPZB3S40F25K	FHL26015	QOB215	10	5	20	A	I
5	MPZB5S40F25K	FHL26015	QOB230	10	5	20	AA	I
7.5	MPZB7S40F25K	FHL26020	QOB240	10	5	30	AA	I
10	MPZB10S40F25K	FHL26030	QOB260	10	5	40	AA	I
15	MPZB15S40F25K	FHL26060	QOB280	24	12	60	BB	I
25	MPZB25S40F25K	FHL26100	QOB2125	24	12	100	BB	I

480 Volt Primary, NQ Panelboard Interior, Interrupting Rating 65 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
3	MPZB3S40F65K	HJL26015	QOB215	10	5	20	A	I
5	MPZB5S40F65K	HJL26015	QOB230	10	5	20	AA	I
7.5	MPZB7S40F65K	HJL26020	QOB240	10	5	30	AA	I
10	MPZB10S40F65K	HJL26030	QOB260	10	5	40	AA	I
15	MPZB15S40F65K	HJL26060	QOB280	24	12	60	BB	I
25	MPZB25S40F65K	HJL26100	QOB2125	24	12	100	BB	I

Single Phase with 304 Stainless Steel Enclosure**480 Volt Primary, Load Center Interior, Interrupting Rating 18 kAIR, Type 3R**

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
3	MPZ3S40FSS	FAL24015	QO215	10	5	20	A	I
5	MPZ5S40FSS	FAL24015	QO230	10	5	20	A	I
7.5	MPZ7S40FSS	FAL24020	QO240	10	5	30	A	I
10	MPZ10S40FSS	FAL24030	QO260	10	5	40	A	I
15	MPZ15S40FSS	FAL24060	QO280	24	12	60	B	I
25	MPZ25S40FSS	FAL24100	QO2125	24	12	100	B	I

480 Volt Primary, NQ Panelboard Interior, Interrupting Rating 18 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
3	MPZB3S40FSS	FAL24015	QO215	10	5	20	A	I
5	MPZB5S40FSS	FAL24015	QOB230	10	5	20	AA	I
7.5	MPZB7S40FSS	FAL24020	QOB240	10	5	30	AA	I
10	MPZB10S40FSS	FAL24030	QOB260	10	5	40	AA	I
15	MPZB15S40FSS	FAL24060	QOB280	24	12	60	BB	I
25	MPZB25S40FSS	FAL24100	QOB2125	24	12	100	BB	I

Three Phase

480 Volt Primary, Load Center Interior, Interrupt Rating 18 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
15	MPZ15T2F	FAL34040	QO360	24	8	40	C	ii
22.5	MPZ22T2F	FAL34070	QO380	24	8	60	C	ii
30	MPZ30T2F	FAL34090	QO3100	24	8	80	C	iii

480 Volt Primary, NQ Paneboard Interior, Interrupt Rating 18 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
15	MPZB15T2F	FAL34040	QOB360	24	8	40	CC	ii
22.5	MPZB22T2F	FAL34070	QOB380	24	8	60	CC	ii
30	MPZB30T2F	FAL34090	QOB3100	24	8	80	CC	iii

480 Volt Primary, Load Center Interior, Interrupt Rating 25 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
15	MPZ15T2F25K	FHL36040	QO360	24	8	40	C	ii
22.5	MPZ22T2F25K	FHL36070	QO380	24	8	60	C	ii
30	MPZ30T2F25K	FHL36090	QO3100	24	8	80	C	iii

480 Volt Primary, NQ Panelboard Interior, Interrupt Rating 25 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
15	MPZB15T2F25K	FHL36040	QOB360	24	8	40	CC	ii
22.5	MPZB22T2F25K	FHL36070	QOB380	24	8	60	CC	ii
30	MPZB30T2F25K	FHL36090	QOB3100	24	8	80	CC	iii

480 Volt Primary, NQ Panelboard Interior, Interrupt Rating 65 kAIR, Type 3R

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
15	MPZB15T2F65K	HJL36040	QOB360	24	8	40	CC	ii
22.5	MPZB22T2F65K	HJL36070	QOB380	24	8	60	CC	ii
30	MPZB30T2F65K	HJL36090	QOB3100	24	8	80	CC	iii

Three Phase with 304 Stainless Steel Enclosure**480 Volt Primary, Load Center Interior, Interrupting Rating 18 kAIR, Type 3R**

kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
15	MPZ15T2FSS	FAL34040	QO360	24	8	40	C	ii
22.5	MPZ22T2FSS	FAL34070	QO380	24	8	60	C	ii
30	MPZ30T2FSS	FAL34090	QO3100	24	8	80	C	iii

480 Volt Primary, NQ Panelboard Interior, Interrupting Rating 18 kAIR, Type 3R

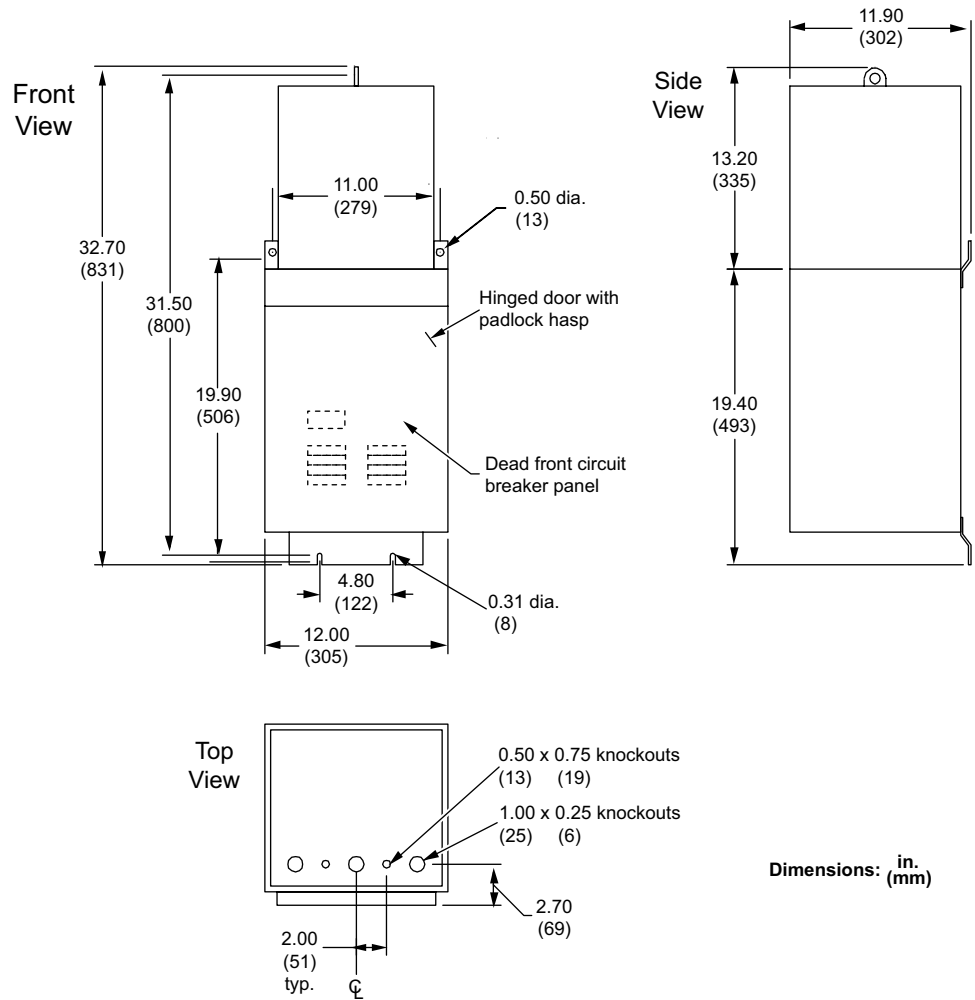
kVA	Part Number	Primary Main	Secondary Main	Feeder Circuit Breakers			Enclosure	Wiring Diagram
				Maximum Number		Maximum Ampere Rating		
				1-pole	2-pole			
15	MPZB15T2FSS	FAL34040	QOB360	24	8	40	CC	ii
22.5	MPZB22T2FSS	FAL34070	QOB380	24	8	60	CC	ii
30	MPZB30T2FSS	FAL34090	QOB3100	24	8	80	CC	iii

Made-to-Order Units

- Secondary voltages are always either single phase: 120/240 or three phase: 208Y/120
- Primary voltage options include: single phase, 600, 240, and 208 V; three phase, 600, 240 and 208 V
- Transformer with electrostatic shielding
- Temperature rise 80°C (176°F) on transformer: 3 to 15 kVA, single phase (not available on 25 kVA); 15 to 22.5 kVA, three phase (not available on 30 kVA)
- Primary circuit breaker options: shunt trip, 120 V

Enclosure Drawings

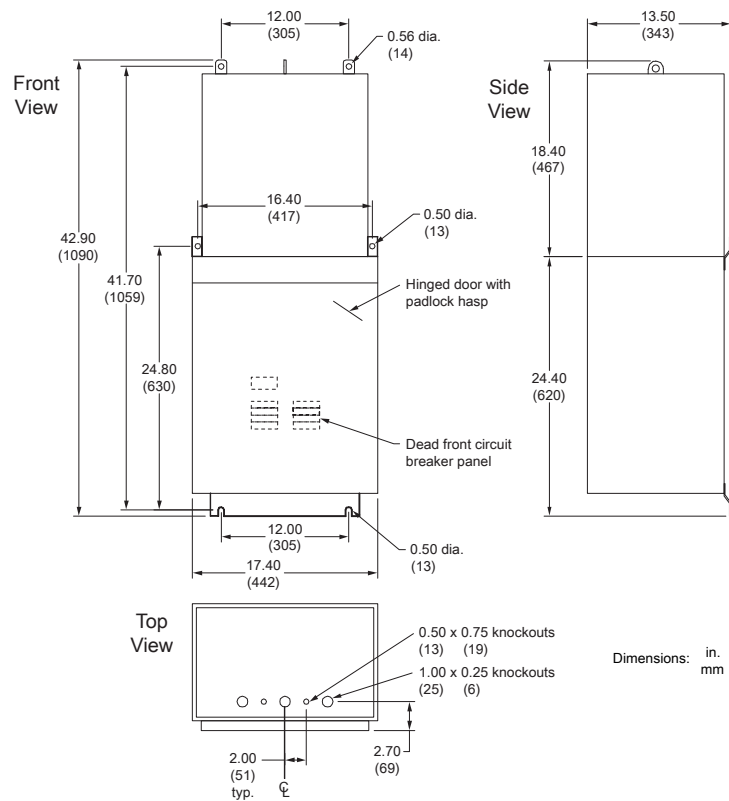
Single Phase—Enclosure A



Replacement Parts

Item	Catalog Number
Box	39002-350-50
Dead front	39002-360-01
Hinged cover	39002-351-01
Back plate	39002-353-01
Grounding bar	PK18GTA

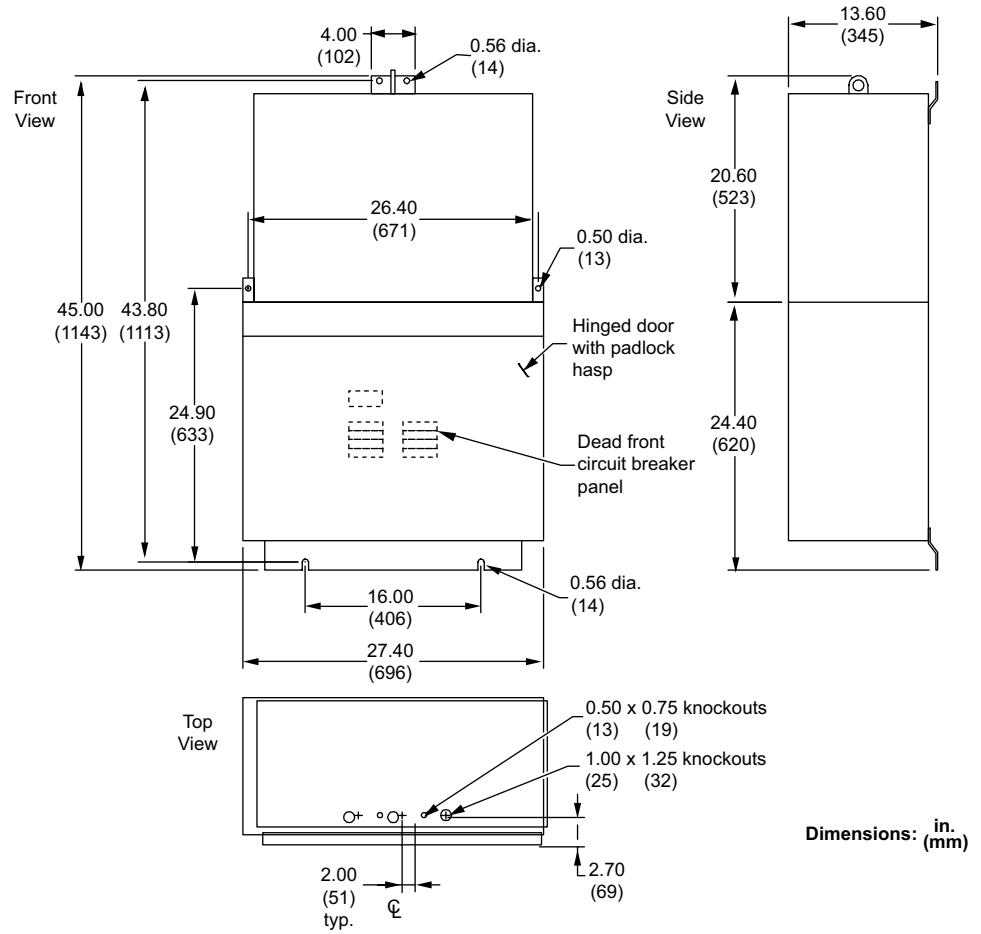
Single Phase—Enclosure B



Replacement Parts

Item	Catalog Number
Box	39002-366-50
Dead front	39007-387-01
Hinged cover	39002-368-01
Back plate	39002-369-01
Ground bar	PK18GTA
Neutral assembly	SN-38

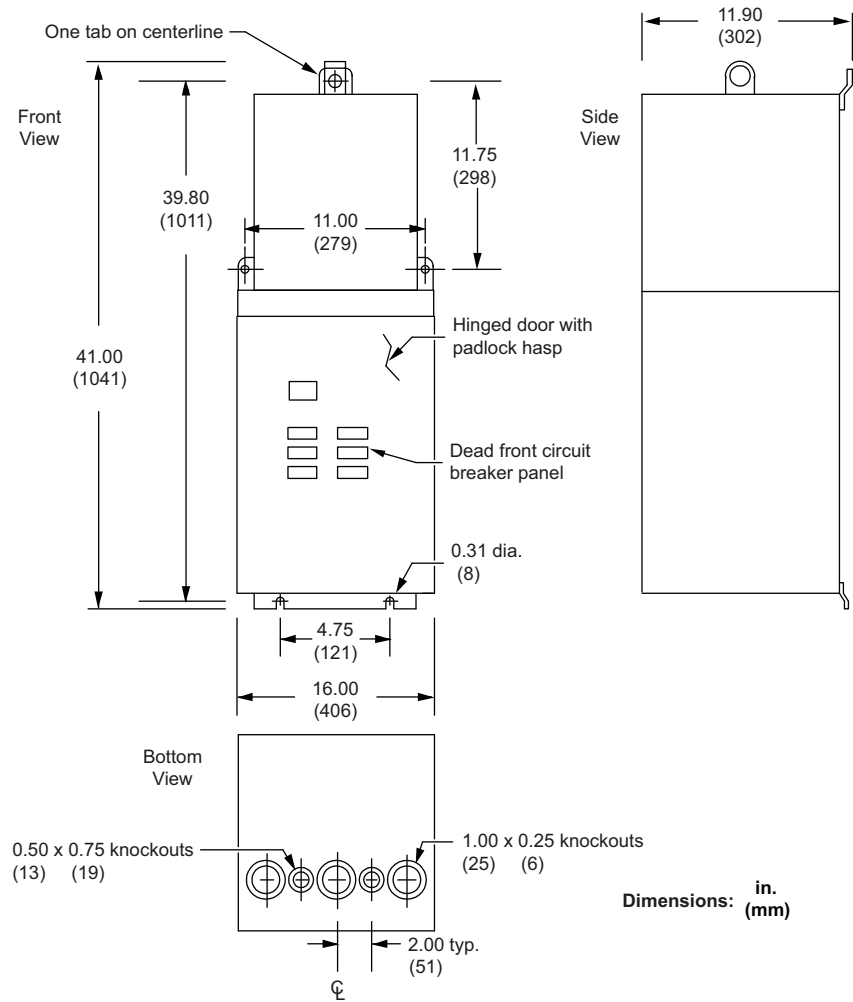
Three Phase—Enclosure C



Replacement Parts

Item	Catalog Number
Box	39002-400-50
Dead front	39007-023-01
Hinged cover	39002-388-01
Back plate	39002-369-01
Grounding bar	PK18GTA
Neutral assembly	SN-38

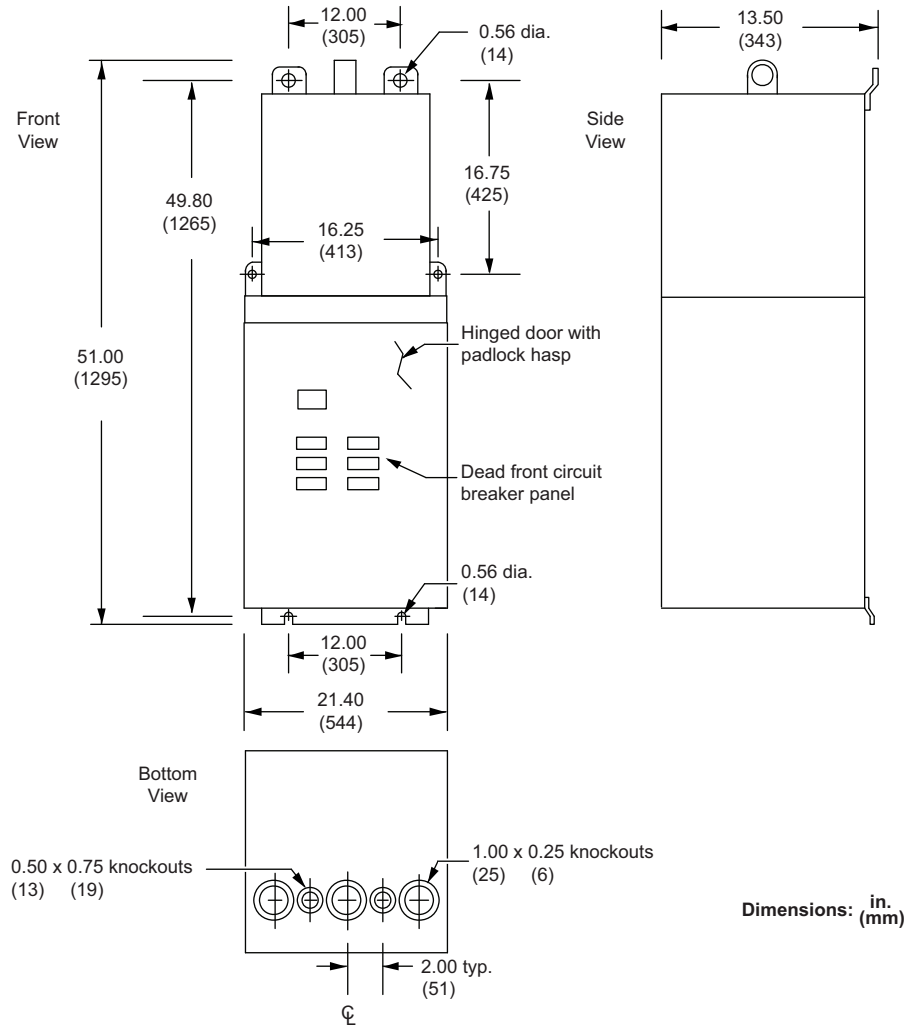
Single Phase—Enclosure AA



Replacement Parts

Item	Catalog Number
Box	39002-412-50
Dead front	39002-412-07
Hinged cover	39002-412-08
Back plate	39002-419-01
Grounding bar	PK18GTA
Neutral assembly	SN-38

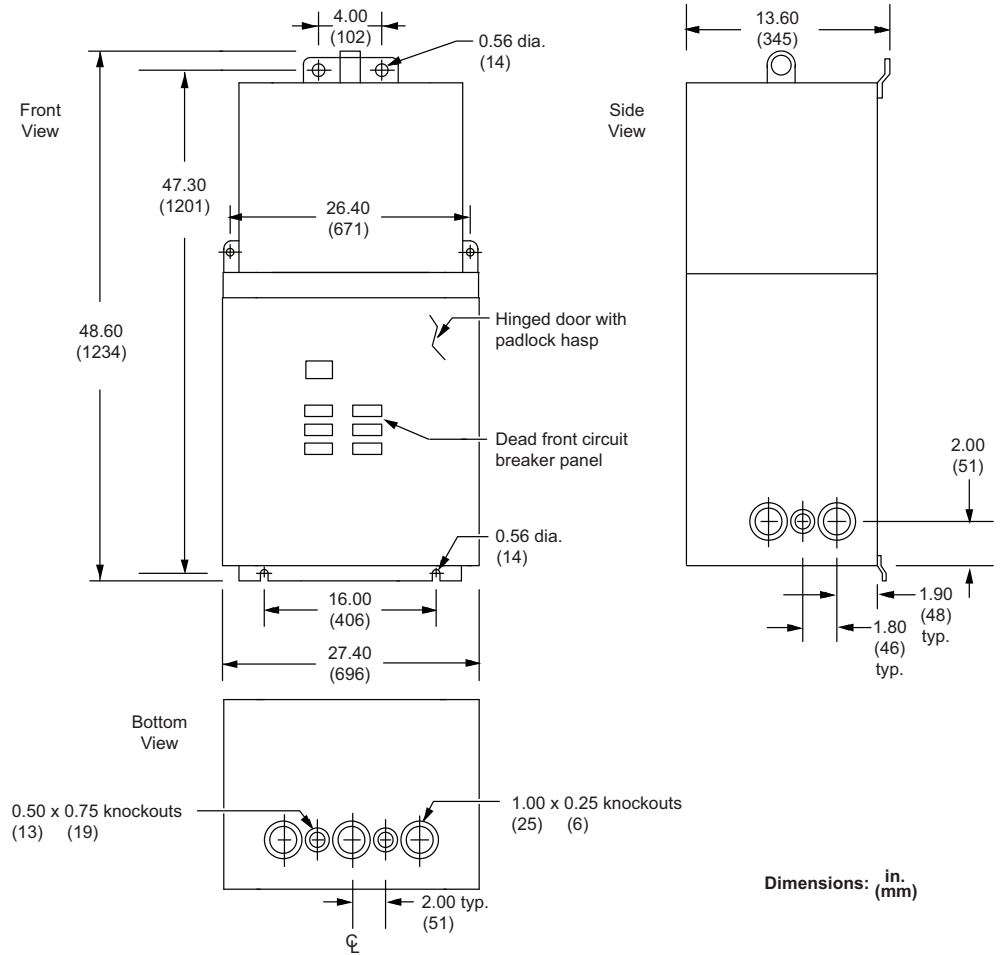
Single Phase—Enclosure BB



Replacement Parts

Item	Catalog Number
Box	39002-431-50
Dead front	39002-431-05
Hinged cover	39002-431-06
Grounding bar	PK18GTA
Neutral assembly	SN-38

Three Phase—Enclosure CC



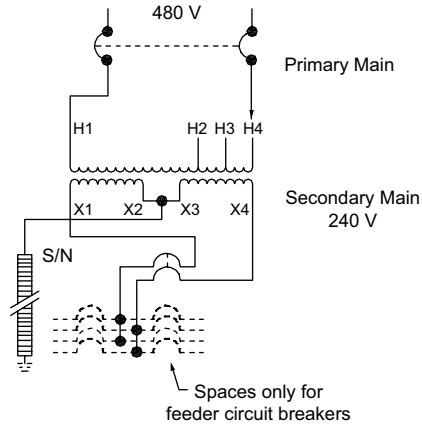
Replacement Parts

Item	Catalog Number
Box	39007-189-50
Dead front	39007-186-02
Hinged cover	39002-416-01
Grounding bar	PK18GTA
Neutral assembly	SN-38

Wiring Diagrams

Single Phase

Diagram i



Three Phase

Diagram ii

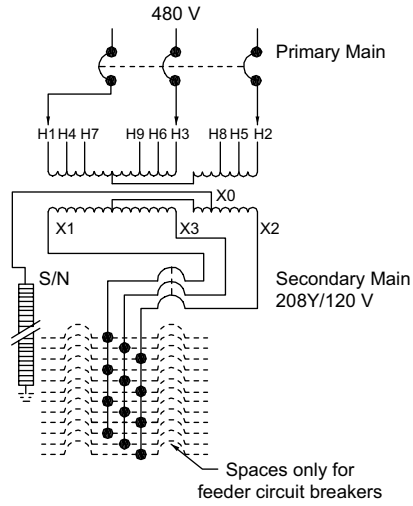
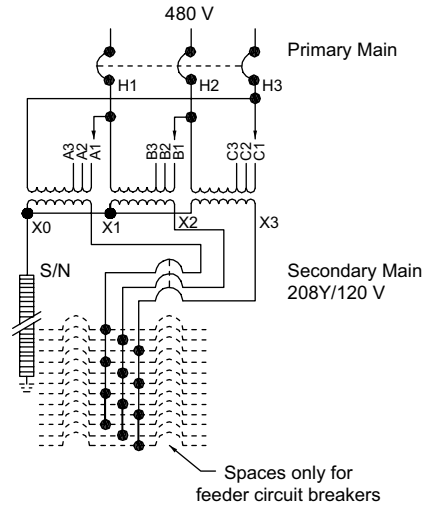


Diagram iii



Additional Information

Designed for Ease of Installation

The Mini Power-Zone Unit Substation has a unique two-part construction that provides installation flexibility. This two-part construction uses removable transformers, available from factory stock, which can be replaced without disturbing external panelboard wiring. The transformer and panelboard can be mounted one part at a time if there is a space or handling problem.

The panelboard can be removed and wired first, if desired. The transformer mounts on top of the panelboard, and the primary and secondary leads are reconnected to the main circuit breakers.

All sizes are carried in Schneider Electric warehouse system stock. Each comes complete with the transformer and the main primary and secondary circuit breakers, all sized in accordance with NEC requirements. Branch circuit breakers are supplied separately.

Replacement Transformers and Interiors

NOTE: Does not include backfeed secondary main circuit breaker.

Phase	kVA	Catalog Number ¹		
		Transformer ²	Interior	
			Load Center	Panelboard
1	3	MPT3S40F	QON12CCI	NQM18L1C
	5	MPT5S40F		
	7.5	MPT7S40F		
	10	MPT10S40F		
	15	MPF1540F	QON30CCI	NQM30L2C
	25	MPF2540F		
3	15	MPF15T2F	QON330L200	NQM430L1C
	22.5	MPF22T2F		
	30	MPF30T2F		

1. Stainless steel units add suffix "SS".

2. Replacement transformer only for units in catalog. Obtain part number for other voltages from local Schneider Electric field office.

Special Applications

Solar Photovoltaic Systems

The output of a photovoltaic (PV) interactive inverter can be connected to either the line or load side of an electric power production and distribution network, such as a utility service, based on the system design and the requirements found in the NEC. Mini Power-Zone units are ideal where voltage transformation is needed. The units include both primary and secondary overcurrent protective devices along with panelboard mounted devices for each inverter output. Contact a local Schneider Electric representative for specific application assistance on using Mini Power-Zone units in PV systems.

For PV applications, the Mini Power-Zone unit will have sources connected to both sides. The NEC overcurrent protection rules limit both the Main (primary) circuit breaker and the secondary circuit breaker to 125% of the rated current. The limits for primary circuit breakers at 480 V are listed in the following table:

kVA	Phase	480 V Current	125% Handle Rating
5	1	10.42	15 ³
7.5		15.63	20 ³
10		20.83	30 ³
15		31.25	40 ⁴
25		50.08	70 ⁴
15	3	18.04	25 ⁴
22.5		27.06	35 ⁴
30		36.08	50 ⁴

3. The standard single phase 5, 7.5, and 10 kVA circuit breakers comply with NEC 690.9(B). Others will have to be quoted as special orders to meet the requirement.
4. Single phase 15 and 25 kVA and all three phase units require special quotation support and special order instruction.

Product Specifications

Unit Substations

UL Listed per UL 1062 File E92978

Transformers

Specification Number: 26 20 00.16

Primary Overcurrent Protection (Circuit Breaker)

Specification Number: 26 28 16.14

Product Name: **Molded Case Circuit Breakers**

Secondary Panelboard and Secondary Main

Specification Number: 26 24 19.05

Product Name: **Lighting and Appliance Branch Circuit Load Centers**

or

Specification Number: 26 24 16.14

Product Name: **Lighting and Appliance Branch Circuit Panelboards 240 Vac, 48 Vdc Maximum**

Schneider Electric
800 Federal Street
Andover, MA 01810 USA

888-778-2733

www.se.us

As standards, specifications, and design change from time to time,
please ask for confirmation of the information given in this publication.

© 2009 – 2020 Schneider Electric. All rights reserved.