

PRODUCT GUIDE

# **NEMA Rated Pump Controls**

3RE48 NEMA Rated Pump Controller for agricultural and oil & gas industries  
[usa.siemens.com/3RE48](http://usa.siemens.com/3RE48)





## **3RE48 NEMA rated** pump controller

Siemens introduces its new 3RE48 NEMA rated pump panel. This newest addition to the already extensive line of Siemens pump panels is well suited for irrigation, oil fields and similar pumping applications and is built to withstand the harsh elements of the outdoors.



## Durable and dependable performance

At Siemens, we know that protecting the performance of your irrigation and oil well pump jack equipment is a critical priority. A key element of this protection is the Siemens 3RE48 pump controller.

## Advanced Technology

Though the 3RE48 is nearly identical to the Class 87 it has an advantage. The 3RE48 sports the latest and more advanced contactor technology with the SIRIUS NEMA rated contactor. It is designed, constructed, tested, and certified per the same NEMA requirements as that of the Class 87 NEMA contactor.



### Typical applications include:

- Crop irrigation
- Oil fields
- Wastewater treatment
- Dewatering

### Highlighted features and ratings

#### General

- NEMA starter sizes 1 – 4
- Fusible disconnect and motor circuit protector
- cULus certified
- UL Listed as Service entrance equipment (US only)
- High fault interrupting ratings up to 100kA at 600V
- UL Listed for 40 deg C max. ambient temperature



#### NEMA contactor

- 3-year limited warranty
- Suitable for high-efficiency motors (IE3/IE4)
- High contact reliability
- Mechanical life of 10 million operations
- Superior protection against entry of dust and contaminants
- Self-cleaning contacts
- Ambient temperature rating of 60° C (Note: The assembled pump panel is UL Listed for 40 deg. C max.)
- NO and NC aux contacts as standard
- Replacement contacts and coils

#### ESP200 solid-state overload relay

- Conformally coated circuit board
- Wide 4:1 FLA adjustment span
- Phase loss protection
- Insensitive to ambient temperature
- Selectable phase unbalance protection
- Selectable ground fault protection
- Selectable trip classes 5, 10, 20 or 30
- Visible trip indicator
- Test Button to test electronic circuitry
- Thermal memory
- 1 NO and 1 NC contacts standard
- Selectable manual/automatic reset
- Remote reset

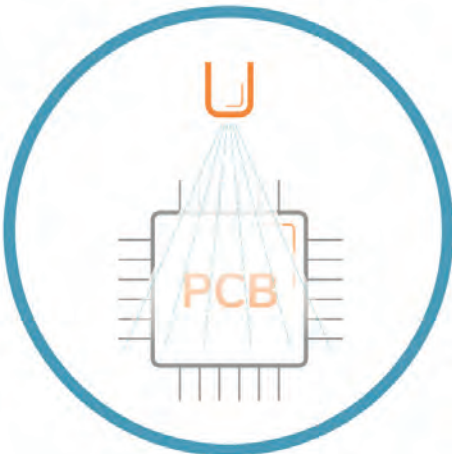
# Values the 3RE48 pump panel offers

## Cost savings

- 3RE48 list price is approximately 15% lower than Class 87
- Reduced lead time by having inventory at the Siemens Distribution Center, including spare parts.
- Cost savings by wiring directly from utility power lines without an intermediate disconnect due to UL rating as service entrance equipment (US only)

## Reliability

- 100% factory testing of assembled pump panel
- Globally recognized, proven and reliable motor control with the 3RT NEMA contactor
- The ESP200 solid-state overload relay provides true phase loss protection tripping within three seconds
- Superior protection against high humidity, condensation, and corrosive environments thanks to the protective coating on the circuit board of the ESP200 overload relay

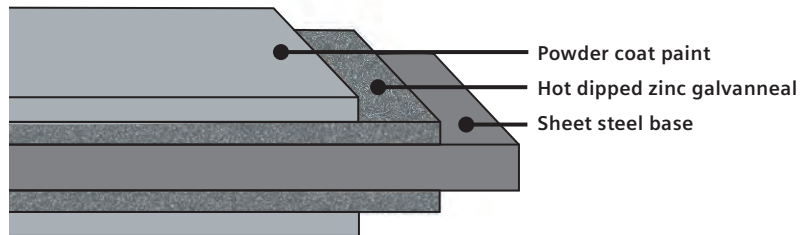


Protective coating on the circuit board

- Superior resistance to outdoor environmental elements due to the rugged oil and dust tight 3SU1 30 mm H-O-A selector switch and Start push button
- NEMA Type 3R outdoor rated enclosure with heavy-duty quarter-turns on door

## Extended product life

- Heavy-duty disconnect switch with double break switch action to reduce arcing and extend lifespan of switch
- Superior corrosion resistance due to enclosure fabricated with galvanized steel versus conventional cold rolled steel



Superior corrosion resistance

- Dust tight and watertight seal due to the fully gasketed door
- Extended life of the 3RT NEMA rated contactor due to its ambient temperature rating of 60° C (compared to 40° C rating of the contactor used in Class 87)

### Safety

- Heavy-duty disconnect switch with visible blades and line side shield to help guard personnel from contact with live parts
- Finger safe NEMA size 1 – 3 contactors
- Disconnect handle accepts 3 – 3/8" padlocks in off position for safe maintenance
- Disconnect door interlock with defeater permits authorized access while preventing unauthorized access when unit is energized
- Door hasp allows unit to be padlocked to prevent unauthorized access and tampering
- High fault interrupting ratings up to 100kA at 600V

### Ease of installation and maintenance

- Time saving mounting flanges with keyhole slots at top and bottom of enclosure
- Multiple conduit knockouts for convenient field installation of bottom entry conduit
- Ease of installation via oversized enclosure making it easier to pull and terminate large power conductors
- Convenient installation of field mounted controls on oversized mounting panel
- Predrilled holes for easy mounting of standard options
- Ease of installation and maintenance due to removable door
- Wind-catch to hold door open during servicing

- ESP200 overload relay test button that triggers a complete electronic functions test, including the trip mechanisms



Commercial farming

### Assurance

- Reduced risk of investment via a 3-year limited warranty on the 3RT SIRIUS NEMA rated contactor and coil
- Selectable ground fault detection with the ESP200 overload relay protects against high-resistance short circuits or ground faults due to moisture, condensation, insulation damage or other reasons
- Protection of motor from overheating with selectable phase unbalance protection and thermal memory with the ESP200 overload relay

# Frequently asked questions

Q: Is the 3RT NEMA rated contactor as reliable as the Class 40 NEMA rated contactor?

A: Both contactors are designed, constructed, tested and certified per the same NEMA requirements. In fact, we are so confident in its reliability, we are extending a 3-year warranty for the 3RT NEMA rated contactors packaged in pump panels.

Q: Is the 3RE48 pump panel replacing the Class 82 or 87 pump panels?

A: No. The Class 82 and 87 pump panels will continue to be offered.

Q: What is the difference between the 3RE48 pump panel and the Class 87 pump panel?

A: The main difference is the NEMA rated contactor. The 3RE48 employs the 3RT SIRIUS NEMA rated contactor where as the Class 87 employs the Class 40 NEMA rated contactor.

Q: Is the 3RT SIRIUS NEMA rated contactor new to the market?

A: No. Thousands of 3RT SIRIUS NEMA rated contactors have been sold since its introduction in 2010.

Q: Is the 3RE48 pump panel stocked at the Siemens Distribution Center?

A: Over twenty of the more common variants are stocked in inventory at the Siemens Distribution Center. The remaining lower volume variants are made to order and usually ship within three days from receipt of order.

Q: Can I order a 3RE48 with factory installed accessories?

A: There is no 3RE48 configurator. If factory installed accessories are required, configure a Class 87 pump panel.

## 3RE48 NEMA rated pump panel

### Catalog number system

3RE4801-0GH76-4DA0

#### Controller type

80 = Pump panel, NEMA rated, full-voltage, standard contactor, heavy-duty, with disconnect

81 = Pump panel, NEMA rated, full-voltage, standard contactor, heavy-duty, with motor circuit protector

#### NEMA size

1  
2  
3  
4

#### Enclosure type and size

G = NEMA Type 3R, standard size

#### Disconnect type and rating

##### Controller type 80

G = 30A disconnect switch with 30A/250V fuse clips  
H = 30A disconnect switch with 30A/600V fuse clips  
J = 60A disconnect switch with 60A/250V fuse clips  
K = 60A disconnect switch with 60A/600V fuse clips  
L = 100A disconnect switch with 100A/250V fuse clips  
M = 100A disconnect switch with 100A/600V fuse clips  
N = 100A disconnect switch with 200A/250V fuse clips  
P = 200A disconnect switch with 200A/600V fuse clips

##### Controller type 81

G = 3A MCP  
H = 10A MCP  
J = 25A MCP  
K = 30A MCP  
L = 40A MCP  
M = 50A MCP  
N = 100A MCP  
P = 125A MCP  
Q = 150A MCP

#### Nominal coil voltage

3 = 110/120 V AC 50/60Hz  
4 = 208 V AC 50/60Hz  
5 = 220/240 V AC 50/60Hz  
7 = 480 V AC 60Hz  
8 = 600 V AC 60Hz

#### Overload relay type

6 = ESP200 solid state with selectable Trip Class 5-10-20-30 (factory set at 10)

#### Overload relay amp range

B = 0.75-3.4  
C = 3-12  
D = 5.5-22  
E = 10-140  
F = 13-52  
G = 25-100  
H = 50-200

#### Series / Generation

0 = 2022

## Selection

### Fusible disconnect

Max Hp rating					Overload relay amp range	Disc. amp rating	Fuse clip amp/volts	Catalog number
200 volts	230 volts	460 volts	575 volts	NEMA size				
—	—	1	1	1	0.75-3.4	30	30A/600V	3RE4801 - OGH•6 - 4BA0
—	—	5	5	1	3-12	30	30A/600V	3RE4801 - OGH•6 - 4CA0
—	—	10	10	1	5.5-22	30	30A/600V	3RE4801 - OGH•6 - 4DA0
—	—	10	10	1	5.5-22	60	60A/600V	3RE4801 - OGH•6 - 4DA0
—	—	25	25	2	13-52	60	60A/600V	3RE4802 - OGH•6 - 4FA0
—	—	25	25	2	13-52	100	100A/600V	3RE4802 - OGM•6 - 4FA0
—	—	50	50	3	25-100	100	100A/600V	3RE4803 - OGM•6 - 4GA0
—	—	50	50	3	25-100	200	200A/600V	3RE4803 - OGP•6 - 4GA0
—	—	100	100	4	50-100	200	200A/600V	3RE4804 - OGP•6 - 4HA0
2	2	—	—	1	3-12	30	30A/250V	3RE4801 - OGG•6 - 4CA0
3	3	—	—	1	5.5-22	30	30A/250V	3RE4801 - OGG•6 - 4DA0
7 1/2	7 1/2	—	—	1	10-40	30	30A/250V	3RE4801 - OGG•6 - 4EA0
7 1/2	7 1/2	—	—	1	10-40	60	60A/250V	3RE4801 - OGH•6 - 4EA0
10	15	—	—	2	13-52	60	60A/250V	3RE4802 - OGH•6 - 4FA0
10	15	—	—	2	13-52	100	100A/250V	3RE4802 - OGL•6 - 4FA0
20	30	—	—	3	25-100	100	100A/250V	3RE4803 - OGL•6 - 4GA0
25	30	—	—	3	25-100	200	200A/250V	3RE4803 - OGN•6 - 4GA0
40	50	—	—	4	50-200	200	200A/250V	3RE4804 - OGN•6 - 4HA0

### Motor circuit protector

Max Hp rating					Overload relay amp range	MCP amp rating	Catalog number
200 volts	230 volts	460 volts	575 volts	NEMA size			
1/2	1/2	1	1	1	0.75-3.4	3	3RE4811 - OGG•6 - 4BA0
2	2	5	5	1	3-12	10	3RE4811 - OGH•6 - 4CA0
3	3	10	10	1	5.5-22	25	3RE4811 - OGH•6 - 4DA0
7 1/2	7 1/2	10	—	1	10-40	30	3RE4811 - OGH•6 - 4EA0
10	15	25	25	2	13-52	50	3RE4812 - OGM•6 - 4FA0
25	25	50	50	3	25-100	100	3RE4813 - OGN•6 - 4GA0
40	50	100	100	4	50-200	150	3RE4814 - OGH•6 - 4HA0

Replace the (•) with the code from the coil table.

#### Coil selection (•) <sup>1</sup>

Nominal voltage	Code
110/120 VAC 50/60 Hz	3
208 VAC 50/60 Hz	4
220/240 VAC 50/60 Hz	5
480 VAC 60 Hz	7
600 VAC 60 Hz	8

#### Notes:


<sup>1</sup> 208 - 600V coils will be wired for incoming voltage.

120V coils will be wired as separate source or control transformer secondary (if ordered).




## Accessories


### Pilot lights (3SU1 30mm full-voltage type with LED lamps)

	Device	Voltage	Catalog number
	Red ON	24 to 240 V AC/DC	49SFLOBRU
	Red OFF		49SFLOARU
	Green ON		49SFLOBGU
	Green OFF		49SFLOAGU


### Pilot lights (Class 52 30mm transformer type with incandescent lamps)

	Device	Voltage	Catalog number	Voltage table	Code (*)
	Red ON	Refer to voltage table	49SPLOBR*	120 VAC	F
	Red OFF		49SPLOAR*	240 VAC	G
	Green ON		49SPLOBG*	480 VAC	H
	Green OFF		49SPLOAG*	600 VAC	E


### Auxiliary contacts

	Device	Starter size	Catalog number
	1 NO & 1 NC laterally mounted, screw terminals	1 - 3	3RH2921-1DA11
		4	3RH1921-1JA11
	2 NO laterally mounted, screw terminals	1 - 3	3RH2921-1DA20
		4	—
	2 NC laterally mounted, screw terminals	1 - 3	3RH2921-1DA02
		4	—


### Disconnect auxiliary switch kits

	Device	Disconnect rating	Description	Catalog number
	For fusible disconnect switch	30 - 200A	2 NO/2NC DPDT (NEMA A600)	HA261234
	For motor circuit protector (MCP)	3A - 125A	1 NO / 1 NC (15A @240V)	A02ED62


### Control power transformers

	Device	Starter size	Catalog number	Transformer table		
	45VA, 2-primary and 1-secondary fuses	1	KT*050	Pri. volts	Sec. volts	Code
	100VA, 2-primary and 1-secondary fuses	2 - 4	KT*100	120	24	1
				208	24	G
				208	120	H
				240/480	24	4
				240/480	120	8
				600	24	6
				600	120	9
	Replace * with code from Transformer table					

### Control relays

	Device	Catalog number	Coil voltage table		Code
	Control relay, 4 NO/0 NC	3RH2140-1***0	Voltage		
	Control relay, 3 NO/1NC	3RH2131-1***0	110/120 VAC 50/60 Hz		AK6
	Control relay, 2 NO/2 NC	3RH2122-1***0	208 VAC 50/60 Hz		AM2
	Replace *** with code from coil voltage table		220/240 VAC 50/60 Hz		AP6
Relays are valid only with extra large enclosures			480 VAC 60 Hz		AV6
Relays and timers include screw terminals					

### Miscellaneous

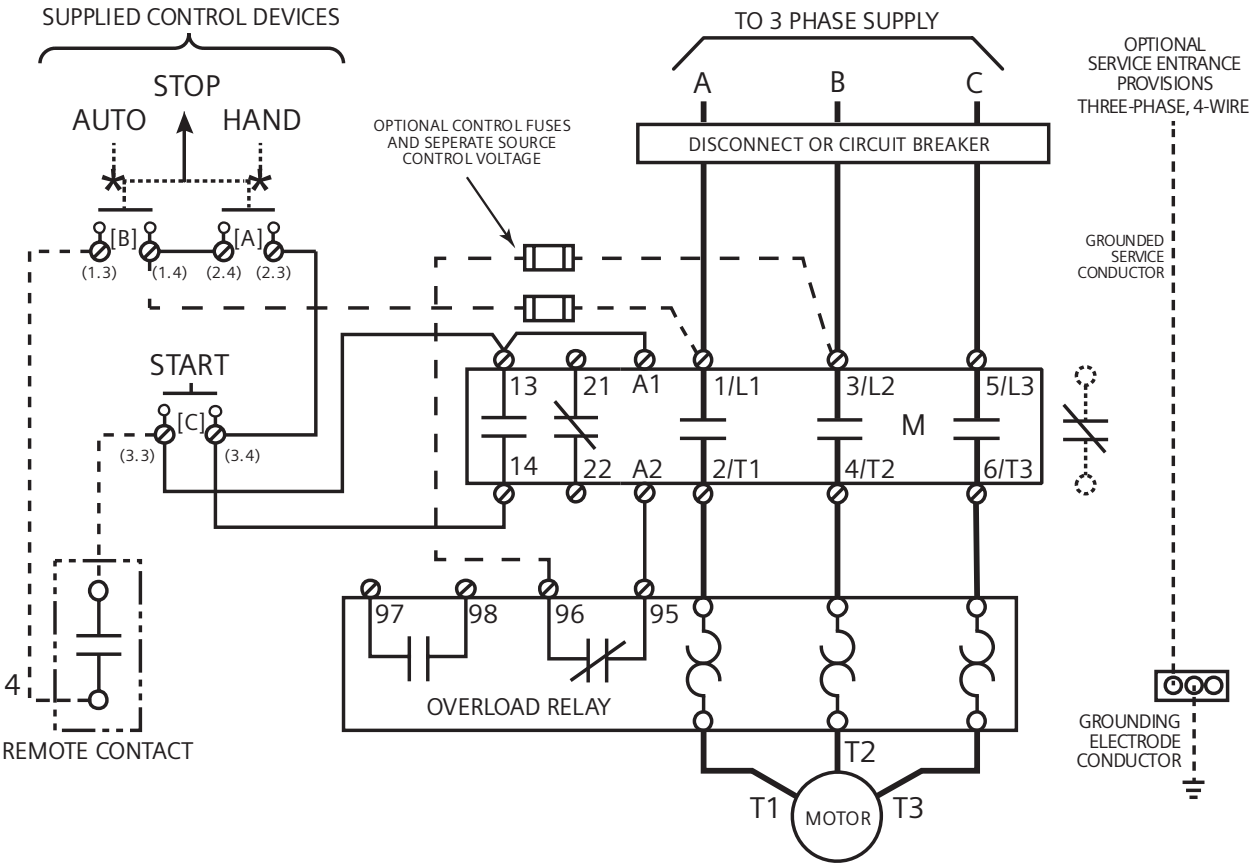
	Device	Voltage	Catalog number
	Lightning arrestor	208 VAC	TPS3C0305D0
		240 VAC	TPS3D0305D0
		480 VAC	TPS3F0305D0
		600 VAC	TPS3G0305D0
	Backspin timer – On delay timer that reduces risk of starting into a backspin.	127 to 200 VAC	3RP2025-1AQ30
		200 to 240 VAC	3RP2025-1AP30
	ESP200 tamper resistance cover	N/A	3UB89848

Contactor replacement parts<sup>1</sup>

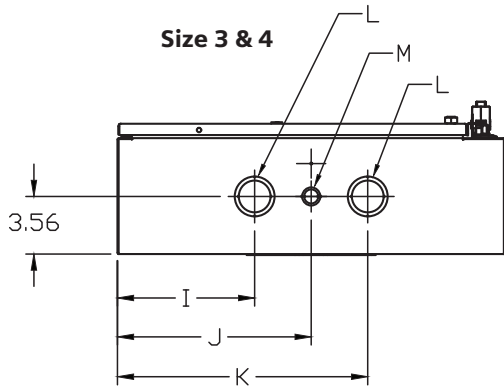
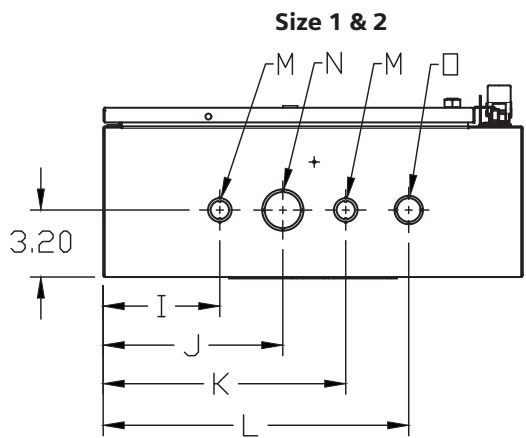
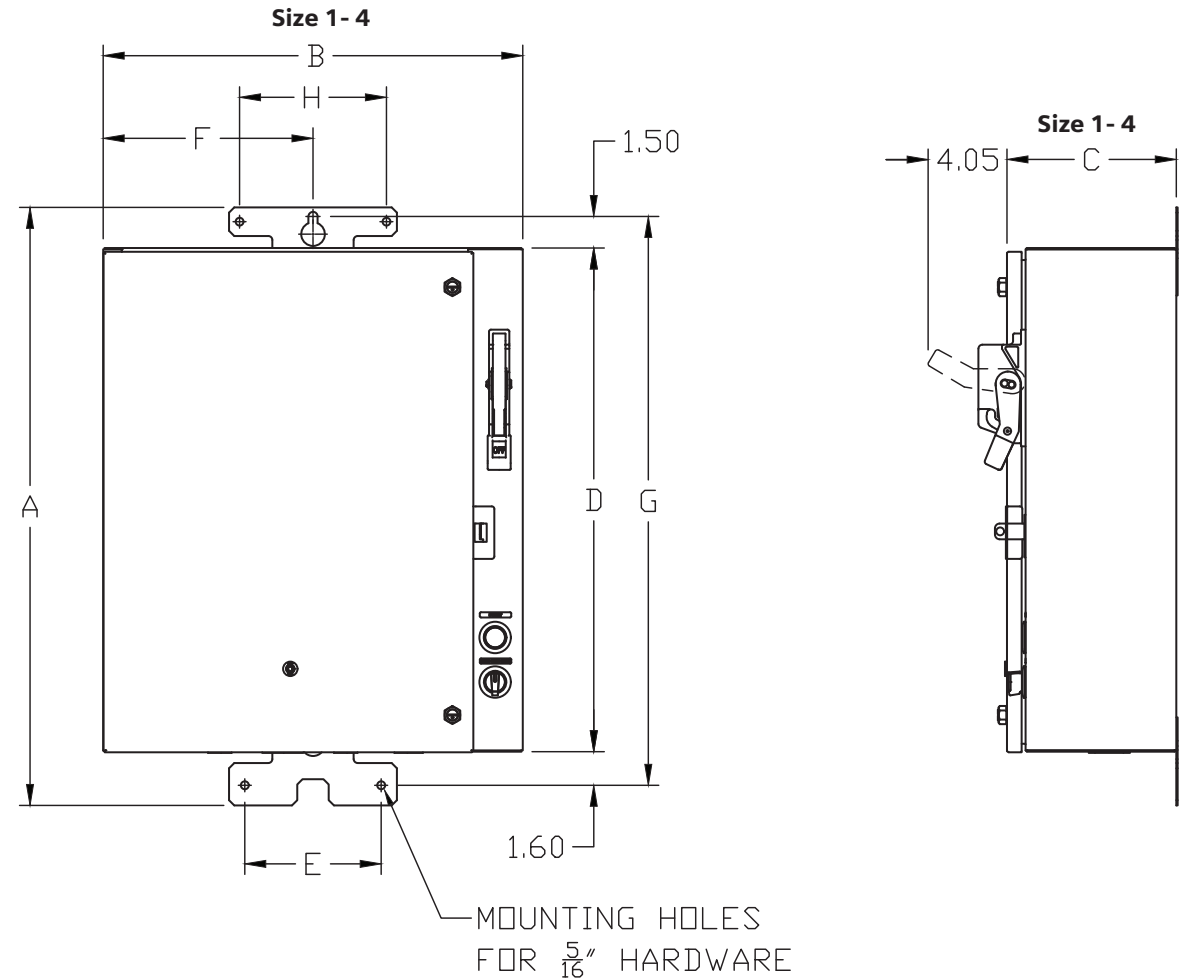
Starter size	Coil voltage	Contactor	Contacts	Coil
1	120	3RT20271AK600UA0	N/A	3RT29265AK61
	240	3RT20271AP600UA0		3RT29265AP61
	480	3RT20271AV600UA0		3RT29265AV61
2	120	3RT20361AK600UA0	3RT29366A	3RT29345AK61
	240	3RT20361AP600UA0		3RT29345AP61
	480	3RT20361AV600UA0		3RT29345AV61
3	120	3RT20461AK600UA0	3RT29466A	3RT29445AK61
	240	3RT20461AP600UA0		3RT29445AP61
	480	3RT20461AV600UA0		3RT29445AV61
4	120	3RT10566AF360UA0	3RT19566A	3RT19555AF31
	240	3RT10566AP360UA0		3RT19555AP31
	480	3RT10566AR360UA0		3RT19555AR31

<sup>1</sup> The replacement parts table lists the more common parts. For complete replacement part guides, visit our website at <https://support.industry.siemens.com>

Wiring diagram



Outline diagram



Approximate Weight (lbs.)

Size 1	45
Size 2	47
Size 3	78
Size 4	85

Size	Outline dimensions			Mounting dimensions					Conduit knockout						
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1 & 2	28.50	20.00	8.06	24.00	6.50	10.00	27.10	7.00	5.50	8.50	11.50	14.50	1.12-1.875	1.96-1.71	1.35-1.12
3 & 4	40.20	24.00	8.06	36.00	6.50	12.00	38.80	7.00	8.50	12.00	15.50	2.46-1.96	1.12-1.875	—	—



**Legal Manufacturer**

Siemens Industry, Inc.  
3617 Parkway Ln  
Peachtree Corners, GA 30092  
United States of America

Telephone: +1 (800) 241-4453  
[usa.siemens.com/3RE48](http://usa.siemens.com/3RE48)  
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