RS PRO VMX-synergy

Quick Start Guide

200-480VAC, 17-500 Amps

- 45 Smart Application Profiles - Easy set up in 1 minute
- Auto Pedestal to control spinning motors
- Built in iERS - intelligent Energy Recovery System
- Lifetime Event Logging Diagnostics
- Metering of Current
- Internally Bypassed

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RS PRO VMX-synergy
Quick Start Guide

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Safety

Important Information

Installers should read and understand the instructions in this guide prior to installing, operating and maintaining the soft-starter. The following symbols may appear in this guide or on the soft-starter to warn of potential hazards or to draw attention to certain information.

Dangerous Voltage

Indicates the presence of a hazardous voltage which could result in personal injury or death.

Tension dangereuse

Indique la présence d'une tension dangereuse qui peut entaîner des blessures ou la mort.

Warning / Caution

Indicates a potential hazard. Any instructions that follow this symbol should be obeyed to avoid possible damage to the equipment, and personal injury or death.

Avertissement / Mise en garde

Indique un danger potentiel. Toutes les instructions suivant ce symbole doivent être observées, afin d'éviter les dommages de l'équipement et les blessures ou la mort.

Protective Earth (Ground)

Indicates a terminal which is intended for connection to an external conductor for protection against electric shock in case of a fault.

Mise à la terre (Masse)

Indique une borne dont l'usage prévu est d'être connecter à conducteur externe pour assurer la protection contre les chocs électriques en cas de défauts.

Caution Statements

The examples and diagrams in this manual are included solely for illustrative purposes. The information contained in this manual is subject to change at any time and without prior notice. In no event will responsibility or liability be accepted for direct, indirect or consequential damages resulting from the use or application of this equipment.

Mises en garde

Les exemples et les schémas de ce manuel ne sont donnés qu'à titre illustratif. Les informations présentées dans ce manuel peuvent être modifiées sans avis préalable.En aucun cas nous n'assumons la responsabilité ou l'obligation pour les dommages directs, indirects ou consécutifs qui résultent de l'utilisation ou application de cet équipement.

Short Circuit

RS PRO soft-starters are not short circuit proof. After severe overload or short circuit, the operation of the soft-starter should be fully tested by an authorised service agent.

Court-circuit

Les démarreurs progressifs RS PRO ne sont pas à l'épreuve des courts-circuits. Après une forte surcharge ou un court-circuit, le fonctionnement du démarreur progressif doit être intégralement vérifié par un agent de maintenance agréé.

Safety

• RS PRO soft-starters contain dangerous voltages when connected to the mains supply. Only qualified personnel that have been completely trained and authorised, should carry out installation, operation and maintenance of this equipment.

• *Les démarreurs progressifs RS PRO contiennent des tensions dangereuses, lorsqu'ils sont connectés à la tension secteur. Les activités d'installation, d'utilisation et d'entretien de cet équipement doivent être effectuées par un personnel qualifié, dûment formé et habilité.*

• Installation of the soft-starter must be made in accordance with existing local and national electrical codes and regulations and have a minimum protection rating.

• *Le démarreur progressif doit être installer conformément au code local et nationale d'électricité et à la réglementation en vigueur, et il doit avoir un indice de protection minimal.*

• It is the responsibility of the installer to provide suitable grounding and branch circuit protection in accordance with local electrical safety codes.

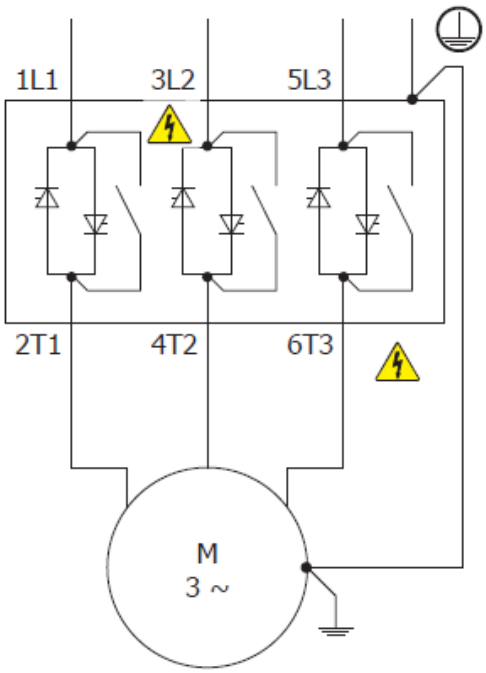
• *Il appartient à l'installeur d'assurer la mise à la terre et la protection du circuit de branchement, conformément au code de sécurité électrique local.*

• This soft-starter contains no serviceable or re-usable parts.

• *Ce démarreur progressif ne contient pas de pièces réparables ou réutilisables*

• The STOP function of the soft-starter does not isolate dangerous voltages from the output of the soft-starter. An approved electrical isolation device must be used to disconnect the soft-starter from the incoming supply before accessing electrical connections.

• *La fonction STOP du démarreur progressif n'isole pas les tension dangereuses en sortie du démarreur progressif. Avant d'accéder aux raccordement électriques, il faut utiliser un dispositif d'isolation électrique approuvé pour déconnecter le démarreur progressif de la tension d'entrée.*



Model number description

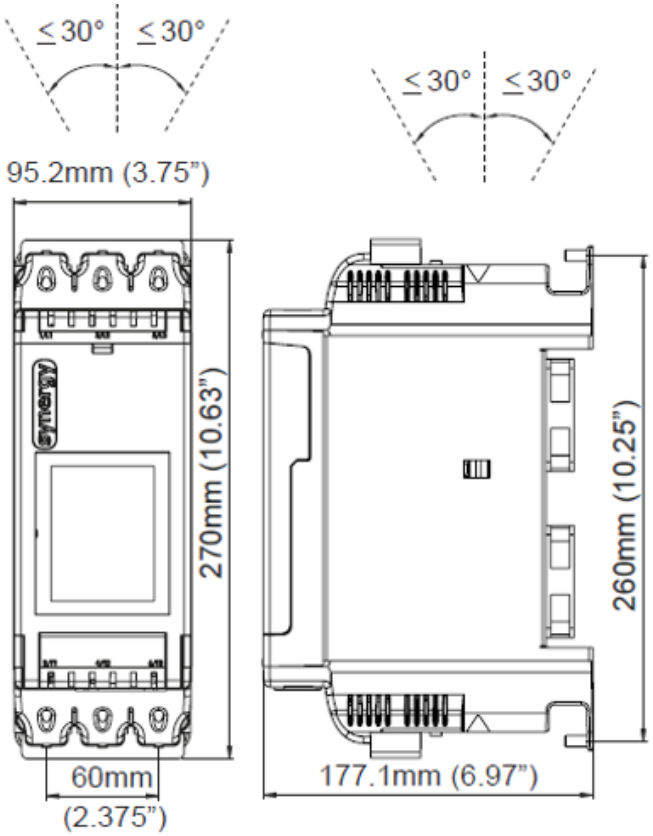
It is essential to check the RS PRO VMX-synergy and AC motor nameplate and ensure the soft-starter is properly sized for your AC motor.

RS PRO Stock Number (I_e)	Frame Size	Rated kW Rating @ 400VAC	Main supply voltage	Control supply U_s
206-052 (17A)	1	7.5kW	200-480VAC	24VDC or 110VAC to 230VAC
206-054 (22A)	1	11kW	200-480VAC	24VDC or 110VAC to 230VAC
206-055 (29A)	1	15kW	200-480VAC	24VDC or 110VAC to 230VAC
206-057 (35A)	1	18.5kW	200-480VAC	24VDC or 110VAC to 230VAC
206-058 (41A)	1	22kW	200-480VAC	24VDC or 110VAC to 230VAC
206-060 (55A)	1	30kW	200-480VAC	24VDC or 110VAC to 230VAC
206-061 (66A)	1	37kW	200-480VAC	24VDC or 110VAC to 230VAC
206-063 (80A)	1	45kW	200-480VAC	24VDC or 110VAC to 230VAC
206-064 (100A)	1	55kW	200-480VAC	24VDC or 110VAC to 230VAC
206-065 (132A)	2	75kW	200-480VAC	24VDC or 110VAC to 230VAC
206-066 (160A)	2	90kW	200-480VAC	24VDC or 110VAC to 230VAC
206-067 (195A)	2	110kW	200-480VAC	24VDC or 110VAC to 230VAC
206-068 (242A)	3A	132kW	200-480VAC	24VDC or 110VAC to 230VAC
206-070 (302A)	3A	160kW	200-480VAC	24VDC or 110VAC to 230VAC
206-072 (361A)	3A	200kW	200-480VAC	24VDC or 110VAC to 230VAC
206-073 (430A)	3B	250kW	200-480VAC	110VAC
206-074 (430A)	3B	250kW	200-480VAC	230VAC
206-076 (500A)	3B	280kW	200-480VAC	110VAC
206-077 (500A)	3B	280kW	200-480VAC	230VAC

Table 1

Weights and dimensions

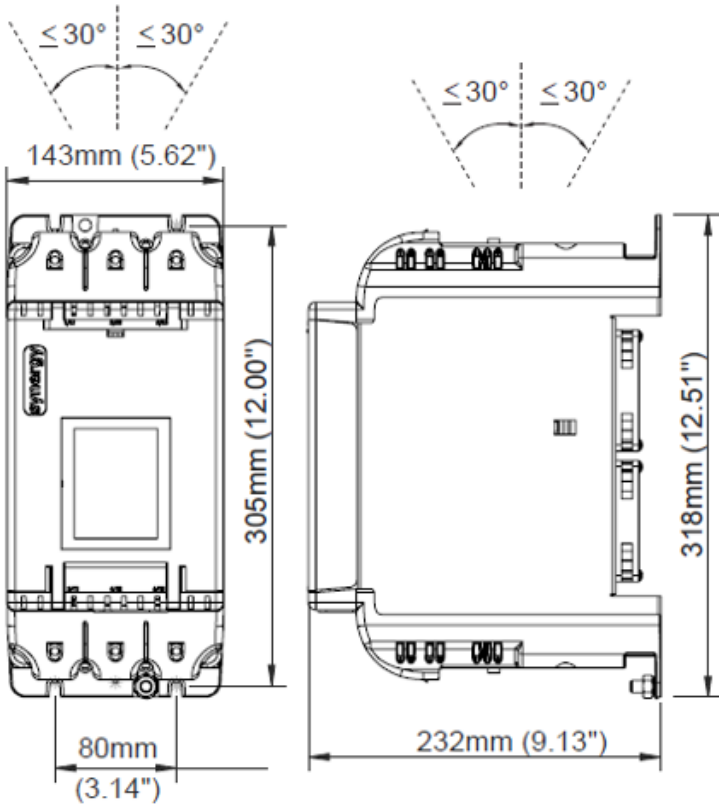
206-052 (17A) to 206-064 (100A) (Size 1)



Weight:

3.50kg (7.71lbs)

206-065 (132A) to 206-067 (195A) (Size 2)

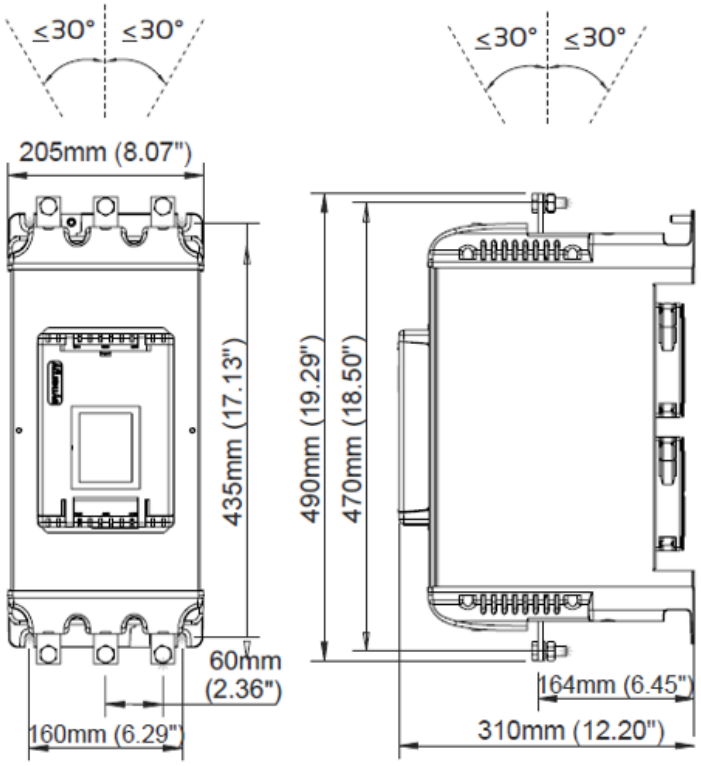


Weight:

6.50kg (14.33lbs)

Weights and dimensions

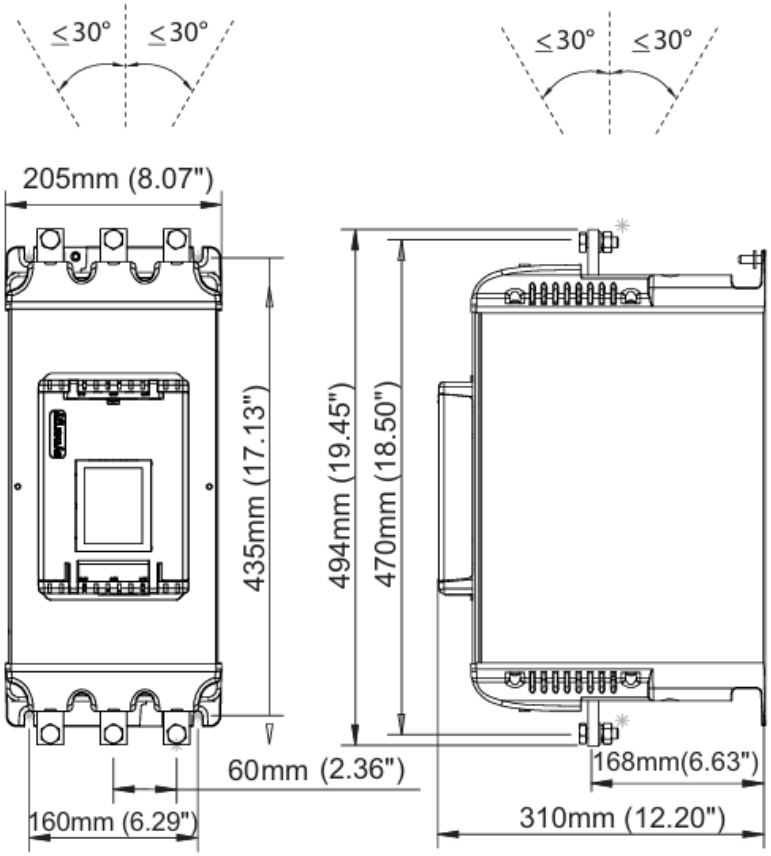
206-068 (242A) to 206-072 (361A) (Size 3A)



Weight:

16.00kg (35.27lbs)

206-073 (430A) to 206-077 (500A) (Size 3B)



Weight:

21.20kg (46.73lbs)

Enclosure ventilation

Enclosure ventilation

When fitting RS PRO VMX-synergy into a cabinet, ventilation must be provided if the heat output of the unit is greater than the cabinet will dissipate. Use the following formula to determine the fan requirement. An allowance has been incorporated into the formula so that the figure for Q is the air delivery in the fan suppliers data.

The maximum power dissipation occurs when energy saving.
Heat dissipated can be approximated with the formula:
Watts (RS PRO VMX-synergy) = 1/2 x RS PRO VMX-synergy current rating x 3

Ventilation intérieure

Lorsque RS PRO VMX-synergy est installé dans une armoire, il faut assurer sa ventilation, si la chaleur produite de l'unité est plus important que la capacité de dissipation de l'armoire. Utiliser la formule suivante pour déterminer la demande de ventilateur. Une tolérence a été incorporé dans la formule, ainsi la figure donnée dans Q est le débit d'air indiqué dans les données du fournisseur du ventilateur.

La puissance maximale de dissipation est atteint en mode économie d'énergie.
La chaleur dissipée peut être estimée par la formule suivante:
Watts (RS PRO VMX-synergy) = 1/2 x courant nominal RS PRO VMX-synergy x 3

Volume of Air

$$Q = \frac{4 \times W_{total}}{T_{max}\text{-}T_{amb}}$$

Q = Volume of air (cubic metres per hour-m3/h)

$\mathbf{W_{total}}$ = Heat produced by the RS PRO VMX-synergy unit and all other heat sources within the enclosure (Watts)

$\mathbf{T_{max}}$ = Maximum permissible temperature within the enclosure (50°C for a fully rated RS PRO VMX-synergy)

$\mathbf{T_{amb}}$ = Temperature of the air entering the enclosure (°C)

If you prefer to work in CFM, substitute °F for °C. Q is now in CFM.

Q = Quantité d'air (mètre cube par heure - m3/h)

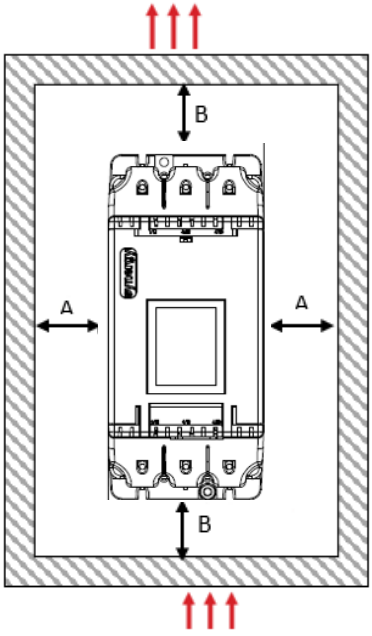
$\mathbf{W_{total}}$ = Chaleur produite par RS PRO VMX-synergy unité et toutes autres sources de chaleur dans l'armoire (Watts)

$\mathbf{T_{max}}$ = Température maximale admissible dans l'armoire (50°C pour RS PRO VMX-synergy en puissance maximale)

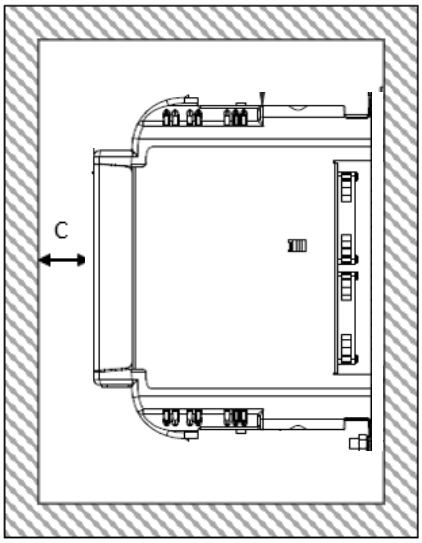
$\mathbf{T_{amb}}$ = Température de l'air entrant dans l'armoire (°C)

Pour calculer en CFM, remplacer °C par °F. Ainsi Q est en CFM.

Enclosure ventilation



Air Flow



Model	A		B		C	
	mm	inch	mm	inch	mm	inch
206-052 (17A) to 206-064 (100A)	25	0.98	75	2.95	25	0.98
206-065 (132A) to 206-067 (195A)	40	1.57	100	3.93	25	0.98
206-068 (242A) to 206-077 (500A)	60	2.36	125	4.92	25	0.98

Table 2

Temperature and altitude

-20°C (-4°F) to 50°C (122°F). Above 50°C (122°F) de-rate linearly by 4 % of RS PRO VMX-synergy Ie per °C to a maximum of 60°C (140°F).

Altitude above sea level 1000m (3281ft). Above 1000m (3281ft) de-rate by 1% of RS PRO VMX-synergy Ie per 100m (328ft) to a maximum altitude of 2000m (6562ft). Please note for higher temperatures and altitudes contact your supplier.

Conductor size and torque requirements

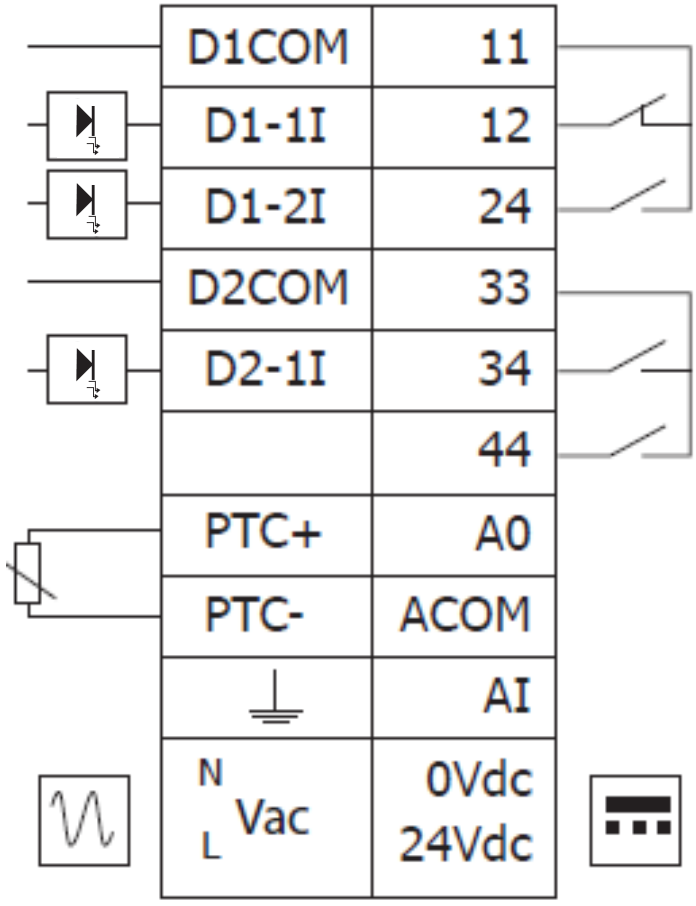
Terminal		Models	Conductor Size		Torque	
			Metric	Imperial	Nm	lb-in
Main Terminals Cu STR 75°C only	Terminal	206-052 (17A) to 206-064 (100A)	2.5 - 70mm²	12 - 2/0AWG	9	80
		206-065 (132A) to 206-067 (195A)	4 - 185mm²	12 – 350MCM	14	123
	M10 bolt	206-068 (242A) to 206-072 (361A)	2 x 95mm²	2 x 2/0AWG		
		206-073 (430A) to 206-077 (500A)	2 x 150mm²	2 x 350MCM		
Control terminals		All models	0.2–1.5mm²	24 - 16AWG	0.5	4.5
Protective Earth [1] Cu only Single Conductor	M6 stud	206-052 (17A)	≥ 4mm²	≥ 12AWG	8	70
		206-054 (22A) to 206-060 (55A)	≥ 6mm²	≥ 10AWG		
		206-061 (66A) to 206-064 (100A)	≥ 10mm²	≥ 8AWG		
	M8 stud	206-065 (132A) to 206-067 (195A)	≥ 16mm²	≥ 6AWG	12	105
		206-068 (242A)	≥ 25mm²	≥ 4AWG		
		206-070 (301A) to 206-072 (361A)	≥ 35mm²	≥ 3AWG		
		206-073 (430A) to 206-077 (500A)	≥ 35mm²	≥ 2AWG		

[1] Protective Earth wire size based on bonding conductor requirements of UL508 Table 7.4 and UL508A Table 15.1 and CSA C22. No 14.

NOTE - Refer to local wiring regulations for correct cable size.

Table 3

Terminal descriptions



Note - 206-073 (430A) to 206-077 (500A) will not have the option of 24VDC. The terminals will be removed.

Terminal descriptions

Left

Terminal	Description	Programmable	Default	Required rating	Notes
D1COM	Digital Input - Group 1 Common				#1
D1-1I	Digital Input 1 - Group 1	Yes	Start / Stop	See **Table 5**, Uc	#1
D1-2I	Digital Input 2 - Group 1	Yes	None	See **Table 5**, Uc	#1
D2COM	Digital Input - Group 2 Common				#2
D2-1I	Digital Input 3 - Group 2	Yes	Reset	See **Table 5**, Uc	#2
PTC+	3 x PTC in series (130°C)		OFF		
PTC-					
⏚	Signal Ground				
N	Control supply			See **Table 5**, Us	#3
L					

Right

Terminal	Description	Programmable	Default	Required rating	Notes
11	Digital Output - Group 1 Common				
12	Digital Output 1 - Group 1 relay N/C	Yes	Fault	230VAC 1A AC15 30VDC 0.5A Resistive	
24	Digital Output 2 - Group 1 relay N/O	Yes	Fault	230VAC 1A AC15 30VDC 0.5A Resistive	
33	Digital Output - Group 2 Common				
34	Digital Output 3 - Group 2 relay N/O	Yes	Running	230VAC 1A AC15 30VDC 0.5A Resistive	
44	Digital Output 4 - Group 2 relay N/O	Yes	End of Start	230VAC 1A AC15 30VDC 0.5A Resistive	
AO	Analog Output	Yes	0-10V	0-10V or 4-20mA	
ACOM	Analog Common				
AI	Analog Input	Yes	0-10V	0-10V or 4-20mA	
0V DC	Control Supply			See **Table 5**, Us	#3
24V DC					

Notes	
#1	The programmed digital input setting on D1COM, D1-1I, D1-2I must correspond to the voltage applied to these terminals to avoid risk of damage to the equipment. Afin d'éviter d'endommager l'équipement, le réglage de l'entrée numérique programmé sur D1COM, D1-1I, D1-2I doit correspondre à la tension appliquée à ces bornes.
#2	The programmed digital input setting on D2COM and D2-1I must correspond to the voltage applied to these terminals to avoid risk of damage to the equipment. Afin d'éviter d'endommager l'équipement, le réglage de l'entrée numérique programmé sur D2COM et D2-1I doit correspondre à la tension appliquée à ces bornes.
#3	The control supply can be 110 to 230Vac applied to the N, L terminals or 24VDCapplied to the 0VDC, 24V input terminals. The correct voltage as specified must only be applied to one of these supply inputs to avoid risk of damage to the equipment. L'alimentation contrôle peut être 110 a 230 Vca, appliquķe aux bornes N et L, ou 24 Vcc, appliquķe aux bornes d'entrķe de 0 Vcc, 24 V. Afin d'ķviter d'endommager l'ķquipement, la tension appropriķe selon les indications ne doit être appliquée qu'à une entrée d'alimentation.

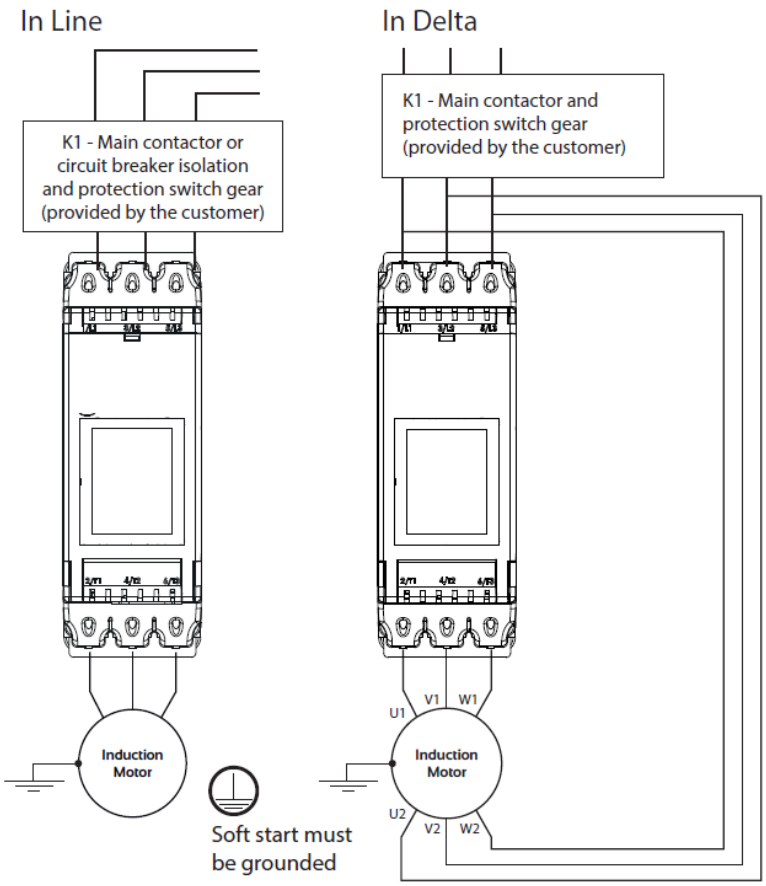
Table 4

Control supply and control circuit (Us and Uc)

Model No (s)	Power consumption	U_s (+10% -15%)	U_c (+10% -15%)	Notes
206-052 (17A) to 206-072 (361A)	60VA	110-230VAC or 24VDC (#1)	⚠ 110VAC or 230VAC or 24VDC 230VAC factory default. 230VAC defaut d'usine	⚠ The system can have either a 110/230VAC mains or 24VDC input NOT both. Le système peut avoir soit une alimentation principale de 110/230VAC ou de 24VDC mais en aucun cas les deux imultanement
206-073 (430A) to 206-074 (500A)	120VA	110VAC		
206-076 (430A) to 206-079 (500A)	120VA	230VAC		
Notes				
#1	206-052 (17A) to 206-072 (361A) 24VAC 60W Residual ripple 100mV Spikes/switching peaks 240mV Turn On/Off no overshoot of V_{out} Overvoltage protection output voltage must be clamped to <30VDC			

Table 5

Wiring connection



Terminal	Forward	Reverse
2 / T1	U1	U1
4 / T2	V1	W1
6 / T3	W1	V1
1 / L1	W2	V2
3 / L2	U2	U2
5 / L3	V2	W2

Note: Circuit breaker isolation alone is not allowed for In Delta operation. K1 (main contactor) controlled by the Running relay **MUST** be isolated.

If reverse rotation is required it is important to keep the incoming phase rotation as L1, L2, L3 and connect the motor windings as shown in the table above.

⚠

For suitable short circuit protection devices (SCPD's) see Short Circuit Protection in the Technical Information / standards section of this guide.

Pour un dispositif de protection approprié contre le court-circuit, voir la protection contre le court-circuit dans la section « Informations techniques/ normes » du présent guide.

⚠

For wire size and torque requirements see Technical Information/ standards section of this guide.

Pour les dimensions de câble et les besoins en couple, voir la section « Informations techniques / normes » du présent guide.

⚠

In Delta For this configuration applying the equation.

RS PRO VMX-Synergy Ie = Ie (motor) / √3.

Allows lower current rating RS PRO VMX-synergy than the motor.

When In Delta configuration is used a line contactor controlled by RS PRO VMX-synergy MUST be used with the In Delta Firing Mode selected in the advanced menu.

⚠

En Delta Pour cette configuration, appliquer l'équation.suivante:

RS PRO VMX-Synergy Ie = Ie (moteur)/ √3.

Cela permet le courant nominal inférieur de RS PRO VMX-synergy par rapport au moteur.

Lorsque En Delta configuration est utilisée, IL FAUT utiliser un sectionneur principal contrôlé par RS PRO VMX-synergy, En Delta mode de fonctionnement, sélectionné dans le menu avancé.

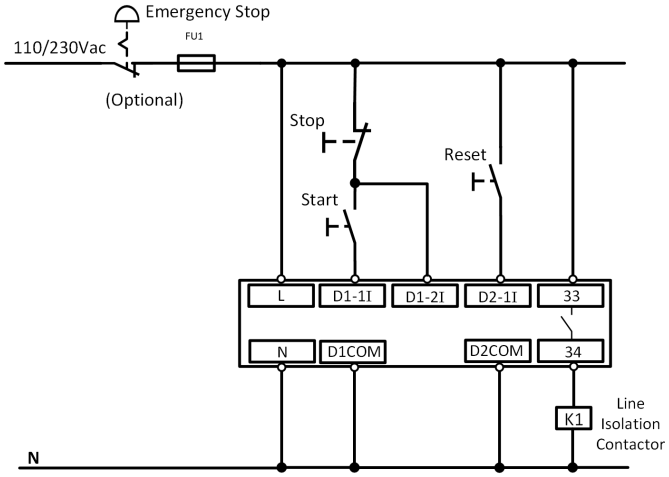
⚠

Power factor correction capacitors must NOT be positioned between the soft-starter and the motor or there is a risk of damaging thyristors due to current peaks.

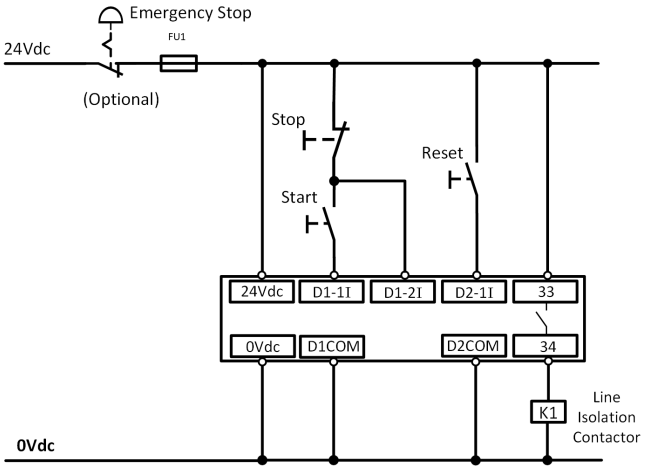
Condensateurs de correction de facteur de puissance NE doivent pas être placés entre le moteur at le démarreur progressif ou il y a un risqué d'endommager les thyristors en raison des pics de courant.

Wiring connection

3 Wire Control Diagram
110/230VAC control supply (U_s) and digital input (U_c) programming



3 Wire Control Diagram
24VDC control supply (U_s) and digital input (U_c) programming (only applicable for 206-052 (17A) to 206-072 (361A))



CAUTION

#1

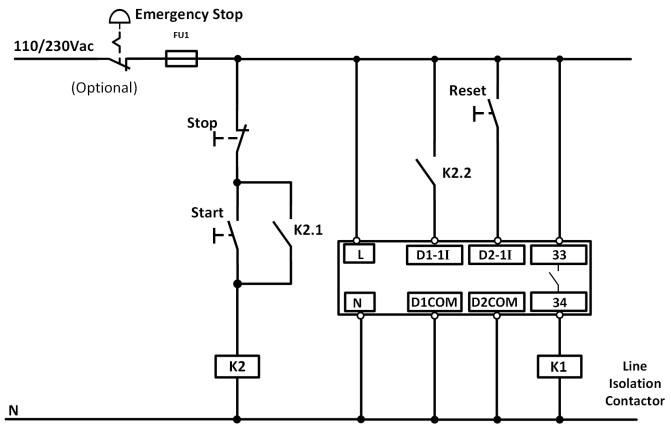
Refer to **TABLE 5** for input control voltages.

These recommended wiring diagrams are specifically where the control supply voltage (U_s) is identical to the control circuit voltage (U_c) and not to be supplied separately. Other wiring configurations must also be in accordance with existing local and national codes and regulations.

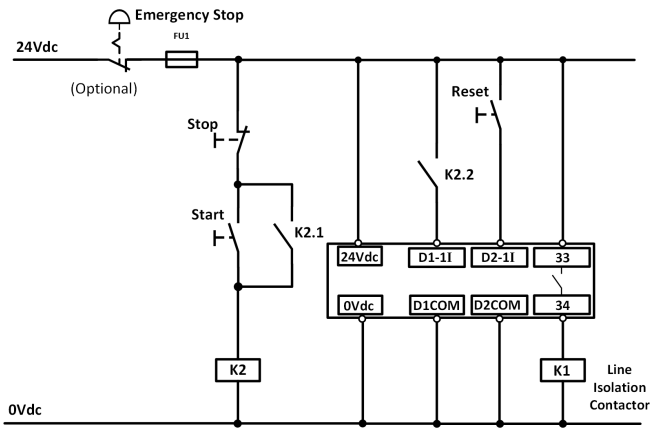
RÉFÉRER au TABLEU 5 pour des tensions de contrôle d'entrée.

Ces schémas de câblage sont recommandées spécifiquement lorsque la tension d'alimentation de commande (U_s) est identique à la tension du circuit de commande (U_c). U_s et UC ne doivent pas être alimentés séparément. Toutes les configurations de câblage doivent également être en conformité avec les codes et les règlements locaux et nationaux en vigueur.

User Programmable Control Diagram
110/230VAC control supply (U_s) and digital input (U_c) programming



User Programmable Control Diagram
24VDC control supply (U_s) and digital input (U_c) programming (only applicable for 206-052 (17A) to 206-072 (361A))



User programmable inputs are fully programmable	1) Optional high reset. If this reset is required, ensure "User Programmable" is selected in the control method menu found in the Digital Inputs menu. If you would prefer the reset to work by removing and reapplying the Start Signal on D1 - 1I then select "Two wire control" in the control method menu.
D1 – 1I = High Start / Low Stop	
D1 – 2I = None	
D2 – 1I = High Reset	

Programming

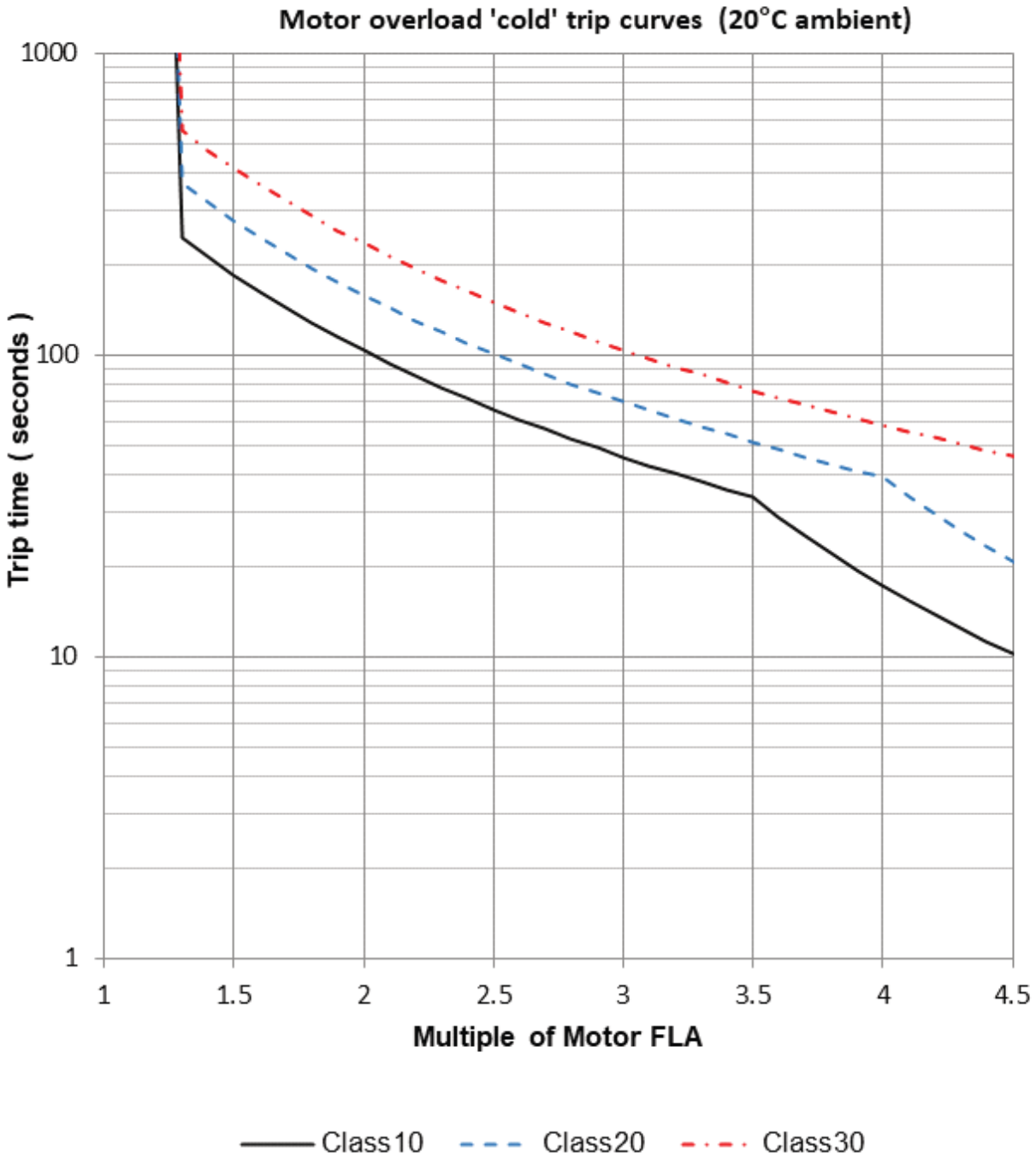
Rating table

Type	I_e A [3]	kW [1]		FLA A [4]	HP [2]				U_s
		230V	400V		200V	208V	220-240V	440-480V	
206-052 (17A)	**17**	4	7.5	**17**	3	5	5	10	24VDC, 110VAC to 230VAC
206-054 (22A)	**22**	5.5	11	**21**	5	5	5	15	
206-055 (29A)	**29**	7.5	15	**27**	7.5	7.5	7.5	20	
206-057 (35A)	**35**	7.5	18.5	**34**	10	10	10	25	
206-058 (41A)	**41**	11	22	**40**	10	10	10	30	
206-060 (55A)	**55**	15	30	**52**	15	15	15	40	
206-061 (66A)	**66**	18.5	37	**65**	20	20	20	50	
206-063 (80A)	**80**	22	45	**77**	20	25	25	60	
206-064 (100A)	**100**	30	55	**96**	30	30	30	75	
206-065 (132A)	**132**	37	75	**124**	40	40	40	100	
206-066 (160A)	**160**	45	90	**156**	50	50	60	125	
206-067 (195A)	**195**	55	110	**180**	60	60	60	150	
206-068 (242A)	**242**	75	132	**242**	75	75	75	200	
206-070 (302A)	**302**	90	160	**302**	100	100	100	250	
206-072 (361A)	**361**	110	200	**361**	125	125	150	300	
206-073 (430A)	**430**	132	250	**414**	150	150	150	350	110VAC
206-074 (500A)	**500**	150	280	**477**	150	150	150	400	
206-076 (430A)	**430**	132	250	**414**	150	150	150	350	230VAC
206-077 (500A)	**500**	150	280	**477**	150	150	150	400	

Notes:

1) Rated operational powers in kW according to IEC 60072-1 (primary series) corresponding to IEC current rating.
2) Rated operational powers in HP according to UL508 corresponding to FLA current rating.
3) The IEC, Ie rating will apply for EN 60947-4-2 max rating index 195A: AC-53a: 3.5-17: 90-5 and 500A: AC-53a: 3.5 17: 90-3.
4) The UL, FLA rating applies for a maximum surrounding air temperature of 50°C.

Overload trip curves



Note - When the overload has tripped, there is an enforced cooling time to allow the overload to recover before the next start. The 'warm' trip times are 50% of the 'cold' trip time.

Technical information and standards

Product standard		IEC/EN 60947-4-2		
Rated operational voltages	**U_e**	200VAC to 480VAC		
Rated operational currents	**I_e**	See Rating Table		
Rating index		206-052(17A) to 206-067 (195A)		Ie: AC-53a: 3.5-17: 90-5
		206-068 (242A) to 206-077 (500A)		Ie: AC-53a: 3.5-17: 90-3
Rated frequency/frequencies		50 - 60Hz ± 5Hz		
Rated duty		Uninterrupted		
Form designation		Form 1, Internally Bypassed		
Rated insulation voltage	**U_i**	480V		
Rated impulse withstand voltage	**U_{imp}**	Main circuit	4kV	
		Control circuit	2.5kV	
IP code		Main circuit	IP00 (IP 20 optional)	
		Supply and control circuit	IP20	
Pollution degree		2		
Rated conditional short-circuit current and type of co-ordination with associated short circuit protective device (SCPD)		Type 1 co-ordination See Short-circuit Protection Tables for rated conditional short-circuit current and required current rating and characteristics of the associated SCPD		
Rated control circuit voltage (programmable)	**U_c**	24VDC, 110VAC or 230VAC	50 - 60Hz ±5Hz	Protect with a 4A UL listed fuse.
Rated control supply voltage	**U_s**	See Rating Table, 2 Amp supply (cont.)		
Relay specification	**11/23, 12, 24 and 33/43, 34, 44**	AC-15, 230VAC, 1A DC-13 30VDC, 0.7A		
EMC emission levels	**EN 55011**	Class A [1)]		
EMC immunity levels	**IEC 61000-4-2**	8kV/air discharge or 4kV/contact discharge		
	IEC 61000-4-3	10 V/m		
	IEC 61000-4-4	2kV/5kHz (main and power ports)		
		1kV/5kHz (signal ports)		
	IEC 61000-4-5	2kV line-to-ground		
		1kV line-to-line		
	IEC 61000-4-6	10V		
Humidity		Max. 85% non-condensing, not exceeding 50% at 40℃		

[1)] NOTICE: This product has been designed for environment A. Use of this product in environment B may cause unwanted electromagnetic disturbances, in which case the user may be required to take adequate mitigation measures

RS PRO VMX-synergy models bearing the ETL listing mark are ETL UL508 and CSA C22.2 No.14 listed to US and Canadian safety standards respectively.

Short-circuit protection

Size 1

Type designation (eg. RS PRO VMX SGY..) (I_e)			206-052 (17A)	206-048 (22A)	206-055 (29A)	206-057 (35A)	206-058 (41A)	206-060 (55A)	206-061 (66A)	206-063 (80A)	206-064 (100A)
Rated operational currents	I_e	A	17	22	29	35	41	55	66	80	100
Rated conditional short circuit current	I_q	kA	5	5	5	5	5	5	5	10	10
Class J time-delay fuse [1]	Maximum rating Z_1	A	30	40	50	60	70	100	125	150	175
UL listed inverse-time delay circuit breaker [1]	Maximum rating Z_2	A	60	60	60	60	60	150	150	250	300
Semiconductor fuse (class aR) [2]	Type		Mersen 6,9 URD 30 _ Bussmann 170M30_ Bussmann 170M31_ Bussmann 170M32_ SIBA 20 61___								
	Fuse rating	A	100	100	160	160	200	200	200	315	315

Size 2 + 3A/3B

Type designation (eg. RS PRO VMX SGY..) (I_e)			206-065 (132A)	206-066 (160A)	206-067 (195A)	206-068 (242A)	206-070 (302A)	206-072 (361A)	206-073 206-076 (430A)	206-074 206-077 (500A)
Rated operational currents	I_e	A	132	160	195	242	302	361	430	500
Rated conditional short circuit current	I_q	kA	10	10	10	18	18	18	18	18
Class J time-delay fuse [1]	Maximum rating Z_1	A	225	300	350	450	500	500	600	600
UL listed inverse-time delay circuit breaker [1]	Maximum rating Z_2	A	350	450	500	700	800	1000	1000	1000
Semiconductor fuse (class aR) [2]	Type		Mersen 6,9 URD 30 _ Bussmann 170M40_ Bussmann 170M41_ Bussmann 170M42_ SIBA 20 61___			Mersen 6,9 URD 33__ Bussmann 170M60_ Bussmann 170M61_ Bussmann 170M62__ SIBA 20 63___				
	Fuse rating	A	400	550	550	900	900	900	1000	1100

Notes:

[1] Suitable for use in a circuit delivering not more than __Iq__ rms Symmetrical Amperes, 480 Volts maximum, when protected by Class J time delay fuses with a maximum rating of __Z1__ or by a circuit breaker with a maximum rating of __Z2___ as in table above.

[2] Correctly selected semiconductor fuses can provide additional protection against damage to the RS PRO VMX-synergy unit. These semiconductor fuses are recommended to provide this increased protection.

Short-circuit Protection for 65kA

Size 1

Type designation (eg. RS PRO VMX SGY..) (I_e)			206-052 (17A)	206-048 (22A)	206-055 (29A)	206-057 (35A)	206-058 (41A)	206-060 (55A)	206-061 (66A)	206-063 (80A)	206-064 (100A)
Rated operational currents	I_e	A	17	22	29	35	41	55	66	80	100
Rated conditional short circuit current	I_q	kA	65	65	65	65	65	65	65	65	65
Class J time-delay fuse [1)]	Maximum rating Z_1	A	25	30	40	45	60	70	80	100	125
UL listed inverse-time delay circuit breaker [1)]	Maximum rating Z_2	A	60	60	60	60	60	100	100	-	-

Size 2 + 3A/3B

Type designation (eg. RS PRO VMX SGY..) (I_e)			206-065 (132A)	206-066 (160A)	206-067 (195A)	206-068 (242A)	206-070 (302A)	206-072 (361A)	206-073 206-076 (430A)	206-074 206-077 (500A)
Rated operational currents	I_e	A	132	160	195	242	302	361	430	500
Rated conditional short circuit current	I_q	kA	65	65	65	65	65	65	65	65
Class J time-delay fuse [1)]	Maximum rating Z_1	A	175	200	250	350	400	450	600	600
UL listed inverse-time delay circuit breaker [1)]	Maximum rating Z_2	A	-	-	-	450	450	450	600	600

Notes:

[1)] Suitable For Use On A Circuit Capable Of Delivering Not More Than ___Iq___ rms Symmetrical Amperes, 480 Volts Maximum, When Protected by Class J time delay Fuses with a Maximum Rating of ___Z1___ if indicated or by a Circuit Breaker with a Maximum Rating of ___Z2___ if indicated. As in table above.

Notes

Notes

Electric current, Danger to life!
Only skilled or instructed persons may carry out the operations.

Lebensgefahr durch Strom!
Nur Elektrofachkräfte und elektrotechnisch unterwiesene Personen dürfen die im Folgenden beschriebenen Arbeiten ausführen.

Tension électrique dangereuse!
Seules les personnes qualifiées et averties doivent exécuter les travaux ci-après.

¡Corriente eléctrica! ¡Peligro de muerte!
El trabajo a continuación descrito debe ser realizado por personas cualificadas y advertidas.

Tensione elettrica: Pericolo di morte!
Solo persone abilitate e qualificate possono eseguire le operazioni di seguito riportate.

触电危险！
只允许专业人员和受过专业训练的人员进行下列工作。

Электрический ток! Опасно для жизни!
Только специалисты или проинструктированные лица могут выполнять следующие операции.

Levensgevaar door elektrische stroom!
Uitsluitelijk deskundigen in elektriciteit en elektrotechnisch geinstrueerde personen is het toegestaan, de navolgend beschrevene werkzaamheden uit te voeren.

Livsfare på grund af elektrisk strøm!
Kun uddannede el-installatører og personer der e instruerede i elektrotekniske arbejdsopgaver, må udføre de nedenfor anførte arbejder.

Προσοχή, κίνδυνος ηλεκτροπληξίας!
Οι εργασίες που αναφέρονται στη συνέχεια θα πρέπει να εκτελούνται μόνο από ηλεκτρολόγους και ηλεκτροτεχνίτες.

Perigo de vida devido a corrente eléctrica!
Apenas electricistas e pessoas com formação electrotécnica podem executar os trabalhos que a seguir se descrevem.

Livsfara genom elektrisk ström!
Endast utbildade elektriker och personer som undervisats i elektroteknik får utföra de arbeten som beskrivs nedan.

Hengenvaarallinen jännite!
Vain pätevät sähköasentajat ja opastusta saaneet henkilöt saavat suorittaa seuraavat työt.

Nebezpečí úrazu elektrickým proudem!
Níže uvedené práce smějí provádět pouze osoby s elektrotechnickým vzděláním.

Eluohtlik! Elektrilöögioht!
Järgnevalt kirjeldatud töid tohib teostada ainult, elektriala spetsialist või elektrotehnilise, Järgnevalt kirjeldatud töid tohib teostada ainult, instrueerimise läbinud personal.

Életveszély az elektromos áram révén!
Csak elektromos szakemberek és elektrotechnikában képzett személyek végezhetik el a következőkben leírt munkákat.

ElektriskŌ strŌva apdraud dzŅvŅbu!
TŌlŌk aprakstŅtos darbus drŅkst veikt tikai elektrospeciŌlisti un darbam ar elektrotehniskŌm iekŌrtŌm instruģtŌs personas!

Porażenie prądem elektrycznym stanowi zagrożenie dla życia!
Opisane poniżej prace mogą przeprowadzać tylko wykwalifikowani elektrycy oraz osoby odpowiednio poinstruowane w zakresie elektrotechniki.

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Pavojus gyvybei dėl elektros srovės!
Tik elektrikai ir elektrotechnikos specialistai gali atlikti žemiau aprašytus darbus.

Porażenie prądem elektrycznym stanowi zagrożenie dla życia!
Opisane poniżej prace mogą przeprowadzać tylko wykwalifikowani elektrycy oraz osoby odpowiednio poinstruowane w zakresie elektrotechniki.

Življenjska nevarnost zaradi električnega toka!
Spodaj opisana dela smejo izvajati samo elektrostrokovnjaki in elektrotehnično poučene osebe

Nebezpečenstvo ohrozenia života elektrickým prúdom!
Práce, ktoré sú nižšie opísané, smú vykonávať iba elektroodborníci a osoby s elektrotechnickým vzdelaním.

Опасност за живота от електрически ток!
Операциите, описани в следващите раздели, могат да се извършват само от специалисти-електротехници и инструктиран електротехнически персонал.

Atenţie! Pericol electric!
Toate lucrările descrise trebuie efectuate numai de personal de specialitate calificat şi de persoane cu cunoştiinţe profunde în electrotehnică.

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California Customers: California Proposition 65 Warning

WARNING: this product and associated accessories may contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information visit https://p65warnings.ca.gov

For further regulatory information, please see Article33 Declaration on website. User specific SCIP details are also available upon request.

To assist with assessing your Environmental impact, International Recycling codes are printed/stamped on unit boxes, to cover all enclosed packing materials.

RS PRO aim to ensure that any battery used within their products is readily removable and replaceable by the end user. Instructions are available on the RS PRO website.

RS PRO reserves the right to make changes or updates with respect to or in the content of this document or the format thereof, at any time without notice.

This product is for professional use only and requires a level of training, it should not be supplied to consumers and is therefore outside the scope of the PSTI act.

RS PRO VMX-synergy

Quick Start Guide

www.RS-online.com

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