



RS PRO VMX-agility

Quick Start Guide

200-600VAC, 17-361 Amps



OLED display, with event history with real time clock

23 Smart Application Profiles - Easy set up in 1 minute

3S Technology, smooth start and stop with stable acceleration and deceleration

6 operation languages to choose from

Connect via MODBUS RTU and USB

Fire Mode - Continue running until destruction in emergency situations

Internally bypassed

Integrated Motor Overload Protection with thermal memory feature

RS PRO VMX-agility

Quick Start Guide

RS Components Ltd
Birchington Road,
Corby,
NN17 9RS
United Kingdom

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 entraîner 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.

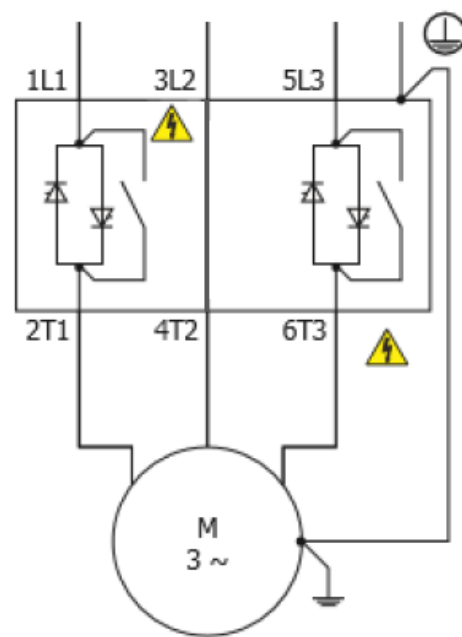
Court-circuit

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 installé 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'installateur 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 tensions dangereuses en sortie du démarreur progressif. Avant d'accéder aux raccordements électriques, il faut utiliser un dispositif d'isolation électrique approuvé pour déconnecter le démarreur progressif de la tension d'entrée.*



Model number description

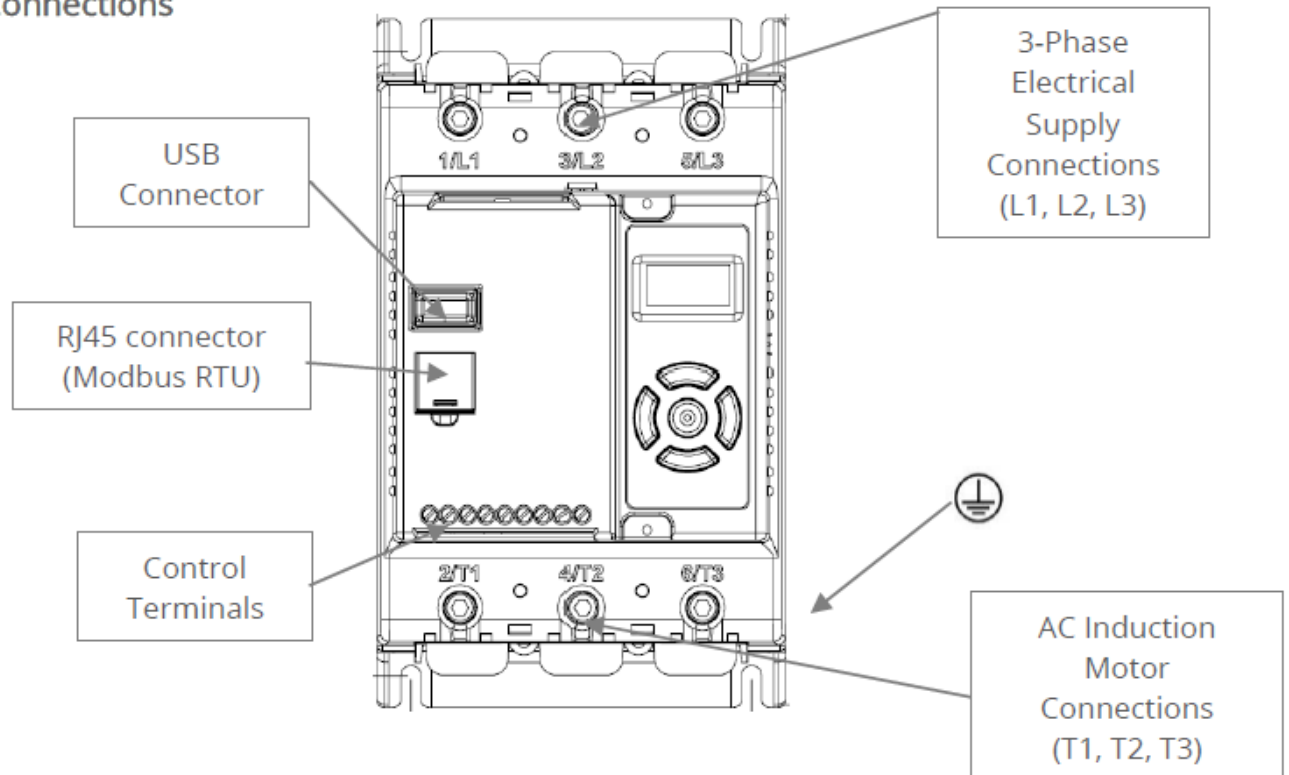
It is essential to check the RS PRO VMX-agility and the AC motor nameplate and ensure the soft-starter is properly sized for your AC motor.

RS PRO Stock Number (I _e)	Frame Size	Rated kW Rating @ 400VAC	Main Supply voltage	Control supply U _s
206-096 (17A)	1	7.5kW	200-600VAC	24VDC
206-098 (22A)	1	11kW	200-600VAC	24VDC
206-099 (29A)	1	15kW	200-600VAC	24VDC
206-101 (35A)	1	18.5kW	200-600VAC	24VDC
206-102 (41A)	1	22kW	200-600VAC	24VDC
206-103 (55A)	1	30kW	200-600VAC	24VDC
206-105 (66A)	1	37kW	200-600VAC	24VDC
206-106 (80A)	2	45kW	200-600VAC	24VDC
206-108 (100A)	2	55kW	200-600VAC	24VDC
206-109 (132A)	2	75kW	200-600VAC	24VDC
206-111 (160A)	2	90kW	200-600VAC	24VDC
206-112 (195A)	2	110kW	200-600VAC	24VDC
206-114 (242A)	3	132kW	200-600VAC	24VDC
206-115 (302A)	3	160kW	200-600VAC	24VDC
206-117 (361A)	3	200kW	200-600VAC	24VDC

Table 1

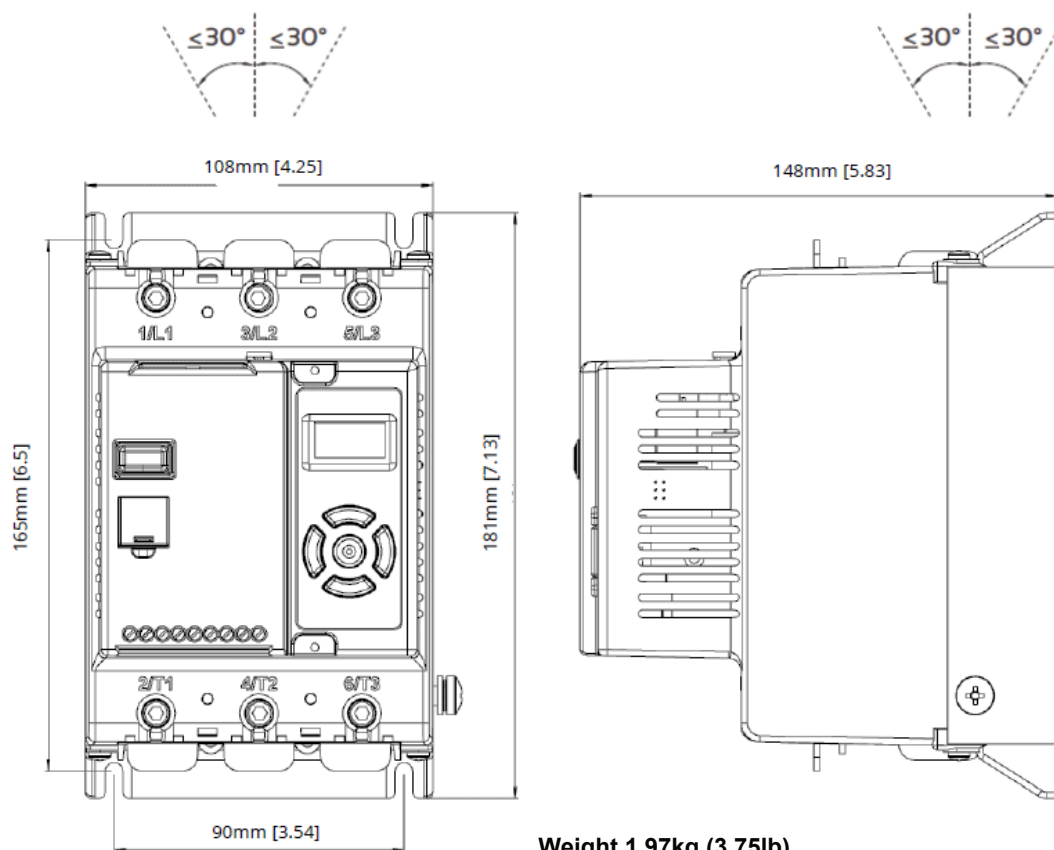
Electrical/communication inputs and outputs

Electrical Connections

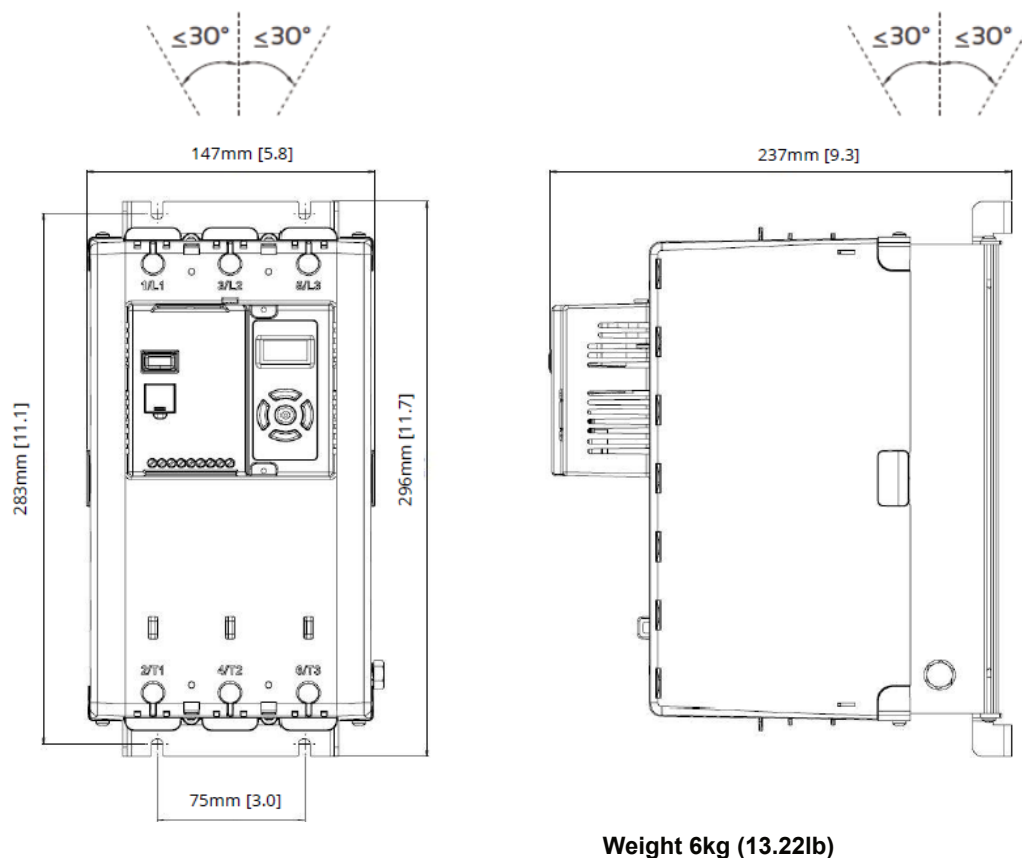


Weights and dimensions

206-096 (17A) to 206-105 (66A) (Size 1)

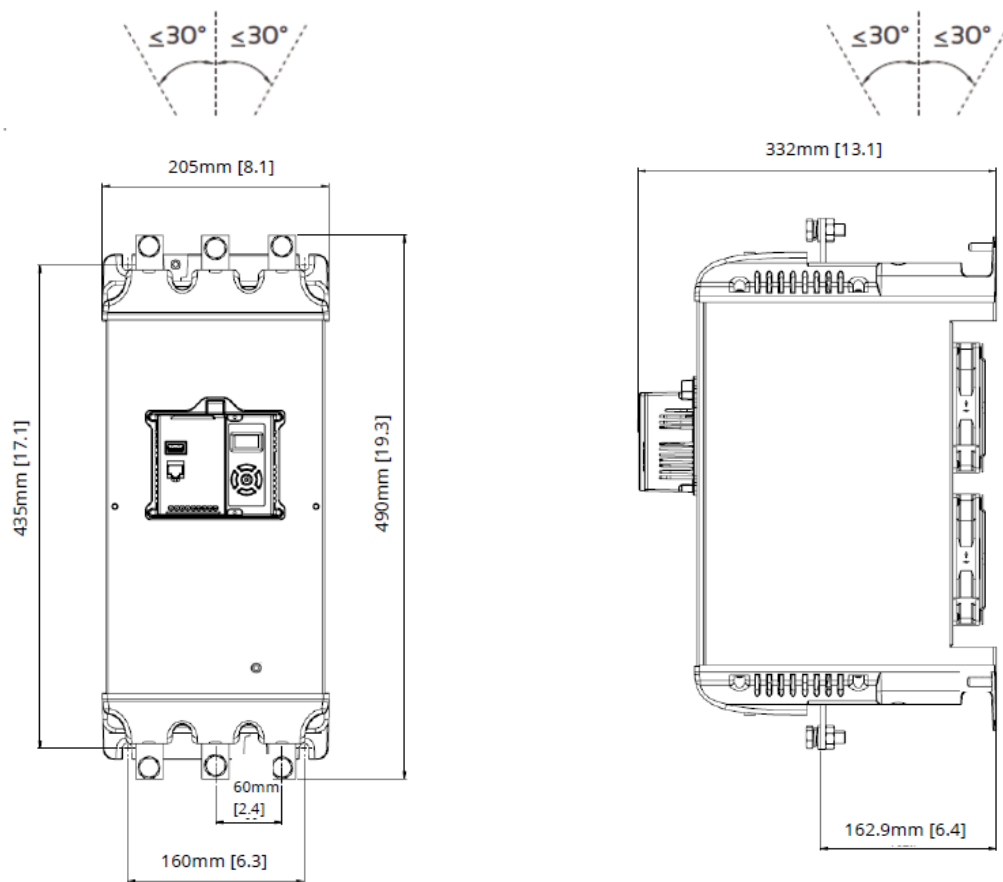


206-106 (80A) to 206-112 (195A) (Size 2)



Weights and dimensions

206-114 (242A) to 206-117 (361A) (Size 3)



Weight 15kg (33.10lb)

Note: RS PRO VMX-agility may be horizontally mounted with deration. See Horizontal Mounting rated table.

Enclosure ventilation



Enclosure Ventilation

When installing the RS PRO VMX-agility into an enclosure, 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 supplier's data.

Heat dissipated can be approximated with the formulas:

Starting

$$\text{Watts (RS PRO VMX-agility)} = \frac{\text{Start current (A)} \times \text{Start time (s)} \times \text{Number of starts per hour}}{1200}$$

Running

$$\text{Watts (RS PRO VMX-agility)} = (\text{RS PRO VMX-agility current rating}) \times 0.4$$

Volume of Air

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

Where

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

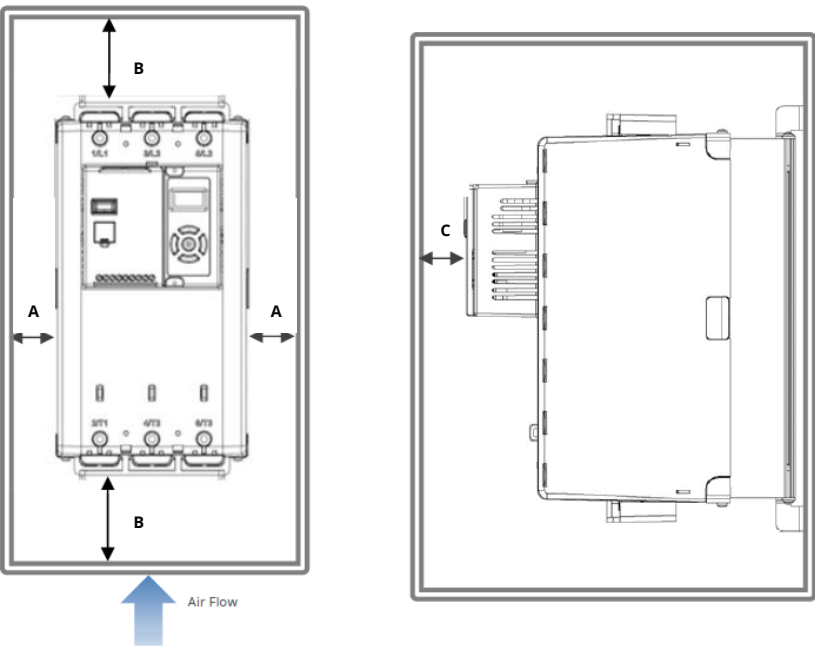
W_{total} = Heat produced by the RS PRO VMX-agility unit and all other heat sources within the enclosure (Watts)

T_{max} = Maximum permissible temperature within the enclosure (40°C for a fully rated RS PRO VMX-agility)

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

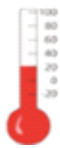
Enclosure ventilation



Model	A		B		C	
	mm	inch	mm	inch	mm	inch
206-096 (17A) to 206-105 (66A)	25	0.98	75	2.95	25	0.98
206-106 (80A) to 206-112 (195A)	40	1.57	100	3.93	25	0.98
206-114 (242A) to 206-117 (361A)	60	2.36	125	4.92	25	0.98

Table 2

Temperature and altitude



-20°C (-4°F) to 40°C (122°F). Above 40°C (104°F) de-rate linearly by 2% of RS PRO VMX-agility I_e 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-agility I_e per 100m (328ft) to a maximum altitude of 2000m (6562ft). Please note for higher temperatures and altitudes contact your supplier.

Conductor sizes and torques

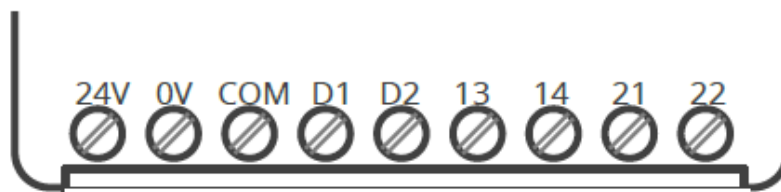
Terminal		Models	Conductor Size ²⁾		Torque	
			Metric	Imperial	Nm	lb-in
Main Terminals Cu STR 75°C only	Terminal	206-096 (17A) to 206-105 (66A)	2.5 - 70mm ²	12- 2/0AWG	9	80
		206-106 (80A) to 206-112 (195A)	4 - 185mm ²	12 – 350MCM	14	124
	M10 bolt	206-114 (242A) to 206-117 (361A)	2 x 95mm ²	2 x 4/0AWG	28	248
Control Terminals		All models	0.2–1.5mm ²	24-16AWG	0.5	4.5
 Protective Earth ¹⁾ Cu only	M6 screw	206-096 (17A)	≥ 4mm ²	≥ 12AWG	8	71
		206-098 (22A) to 206-103 (55A)	≥ 6mm ²	≥ 10AWG		
		206-105 (66A) to 206-108 (160A)	≥ 10mm ²	≥ 8AWG		
	M8 screw	206-109 (132A) to 206-112 (195A)	≥ 16mm ²	≥ 6AWG	12	106
	M8 stud	206-114 (242A)	≥ 25mm ²	≥ 4AWG		
		206-115 (301A) to 206-117 (361A)	≥ 35mm ²	≥ 3AWG		

¹⁾ Protective Earth wire size based on bonding conductor requirements of UL508 Table 7.4 and UL508A Table 15.1, with suitable equivalent metric conductor sizes as per IEC 60947-1 Table 7a.

²⁾ The actual conductor used must comply with local wiring regulations.

Table 3

Terminal designations



Terminal	Description	Default	Function Selectable	Note
24VDC	Control Supply +Us	-	No	#1
0V	Control Supply -Us	-	No	
COM	Digital inputs Common	-	No	
D1	Digital input 1	-	No	#2
D2	Digital input 2	-	Yes	#2
13 / 14	Main Contactor Control (Run Relay)	-	Yes	#3
21 / 22	Fault Relay	-	Yes	#3

NOTES:

#1) 24VDC Specification, see technical information for VA rating, residual ripple <100mV, spikes/switching peaks <240mV, turn on/off response no overshoot of Vout, Over-voltage voltage protection output voltage must be clamped <30VDC.

#2) The voltage applied to the digital inputs D1 and D2 must not exceed 24VDC.

#3) 250VAC, 2A, Cos ϕ = 0.5.

Digital Input (D2) Selectable Functions

Different functions may be assigned to Digital input 2 in the I/O menu. Available assignments are:

- D1 Prog - Reset
- D1 Prog - Hold Start Ramp
- D1 Prog - Enable
- D1 Prog - Fire Mode

NOTE: in Fire mode all trips are disabled.

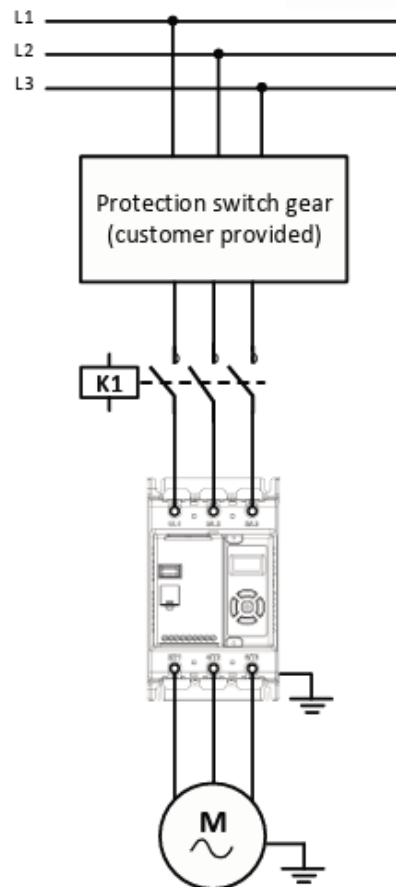
Digital Outputs (13/14 and 21/22) Selectable Functions

The outputs may be mapped to the following:

- Run
- Auto Reset Pending
- Auto Reset Exceeded
- Breaker
- PH/SCR
- End of Start
- Fault

Wiring connection

Three-phase connection

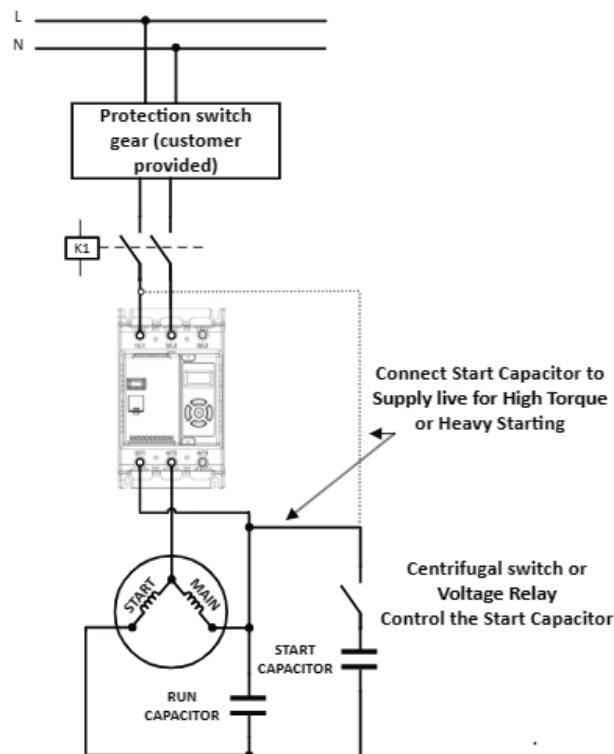


Wiring connection

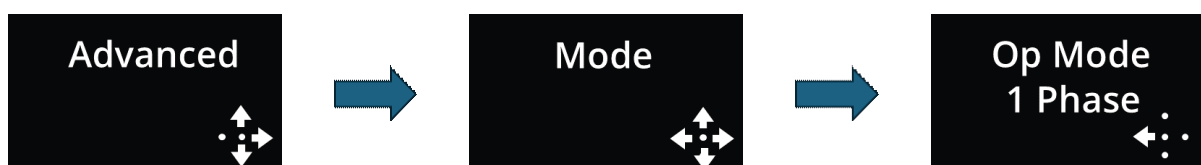
Single-phase connection

Single-phase operation.

RS PRO VMX-agility soft-starters may be operated with a single-phase supply and motor. The base rating of the unit is unchanged.



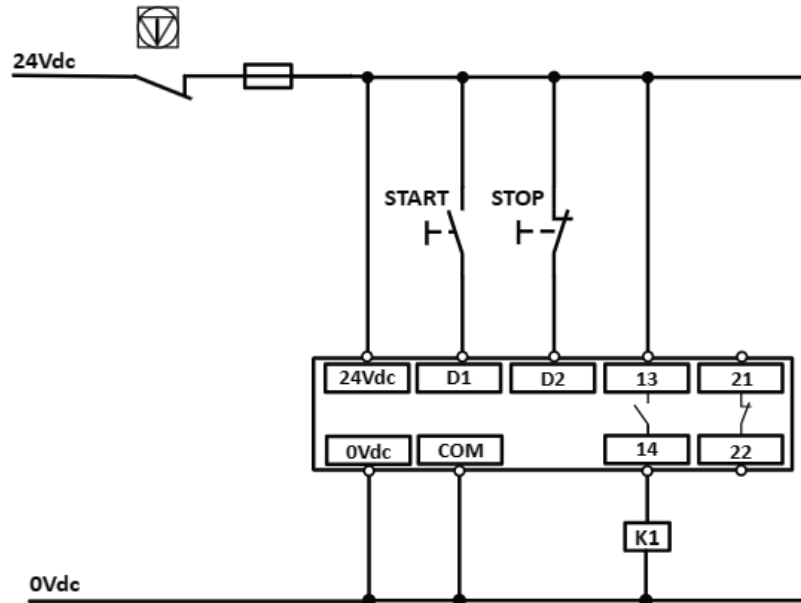
For single-phase operation the mode of the soft-starter must be set correctly in the Advanced menu:



Wiring connection

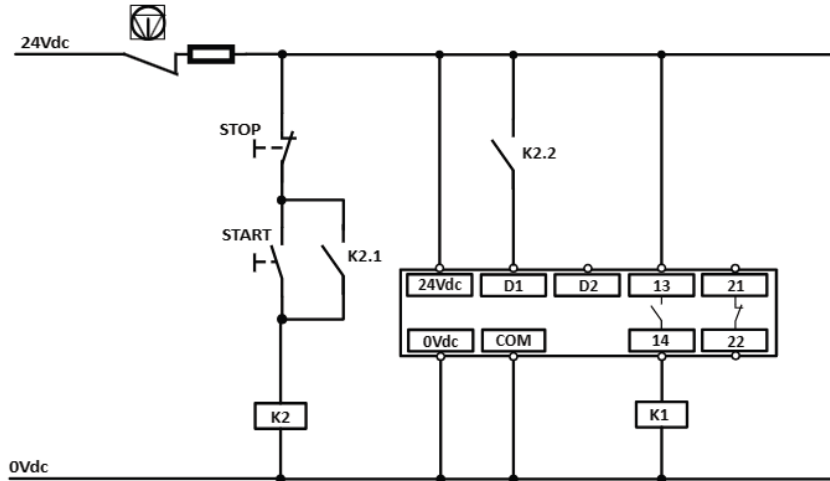
3 Wire Control Diagram

24VDC control supply (U_s)



2 Wire Control Diagram

24VDC control supply (U_s)



NOTE: 110 – 230VAC control supply possible with optional control supply module 206-044.

Configuration and parameters



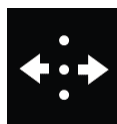
Display and Controls

- | | | | |
|----------|---|----------|---|
| 1 | Status Message | 5 | Motor Overload Level:
0 to 100% |
| 2 | Instantaneous Motor Current | 6 | Control Keypad |
| 3 | Control Scheme:
Local/Control Terminal/Modbus RTU | 7 | Status LED:
(incorporated into centre button) Green/
Red |
| 4 | Keypad Guidance Wizard:
Displays which keys are valid for
specific menus | | |

Keypad Guidance Examples



All Keys Active



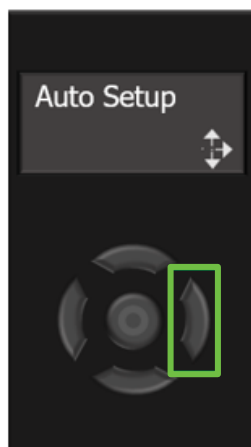
Left and Right
keys Active



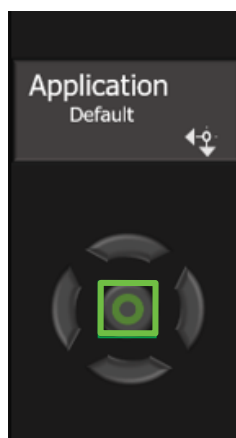
Right, Down &
Centre keys Active

Programming

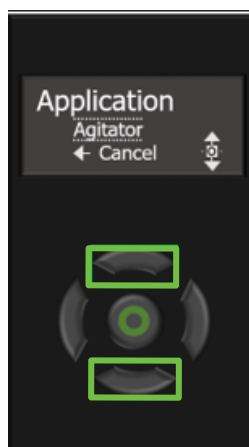
Auto Application set-up



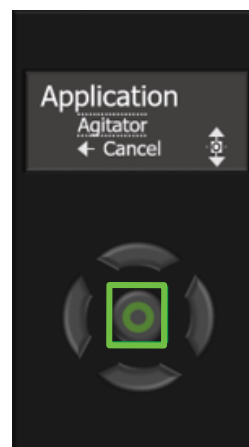
On the Auto setup screen press the Right arrow



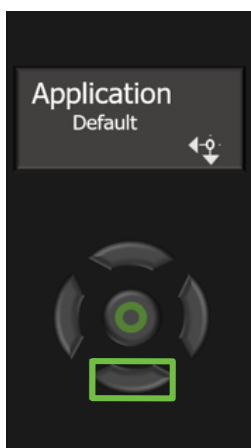
To select the correct application press the Centre button



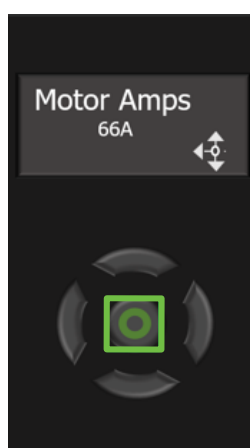
Use Up and Down arrows to select correct application



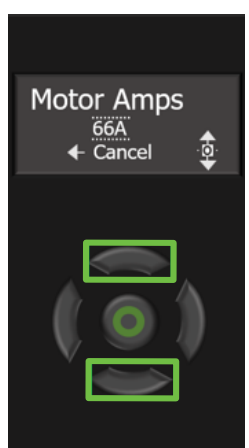
When correct Application is highlighted press the Centre button



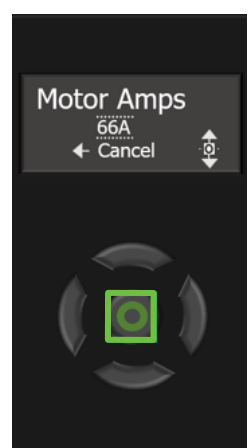
Press the Down arrow button to get to Motor amps



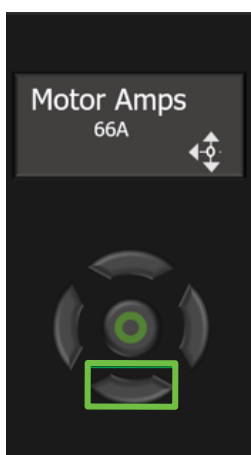
To set the correct motor current press the Centre button



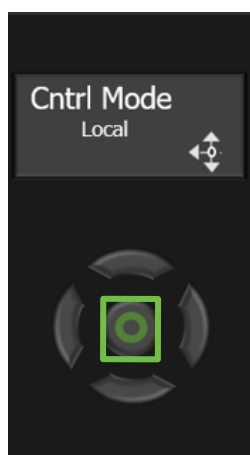
Use Up and Down arrows to set correct motor current



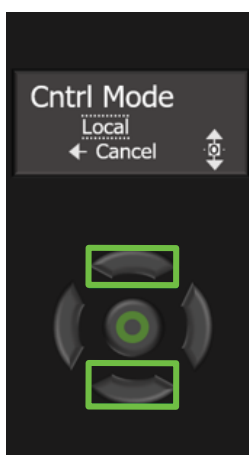
When correct Motor current is highlighted press the Centre button



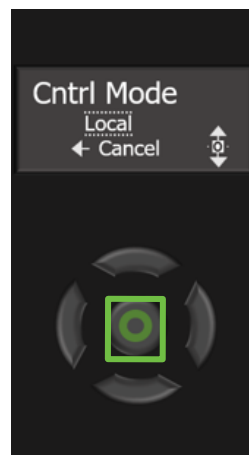
Press the Down arrow button to get to Control Mode



To set the correct Control Mode press the Centre button



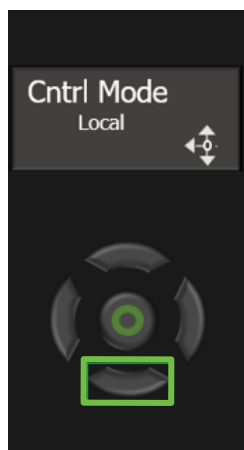
Use Up and Down arrows to set correct Control Method (Local/Remote/Modbus/Expansion)



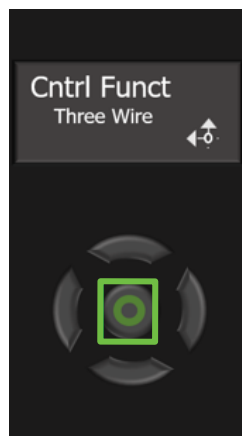
When correct Control Method is highlighted press the Centre button

Programming

Auto Application set-up (Continued)



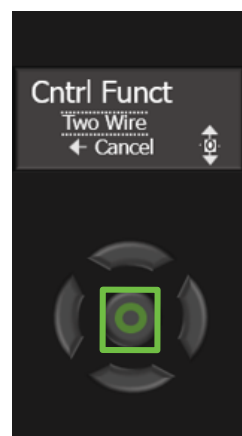
Press the Down arrow button to get to Control Function



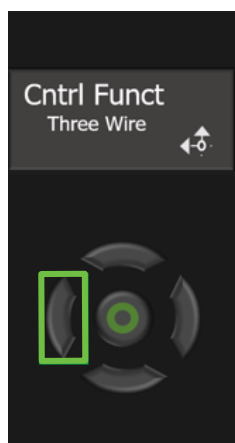
To set the correct Control Function press the Centre button



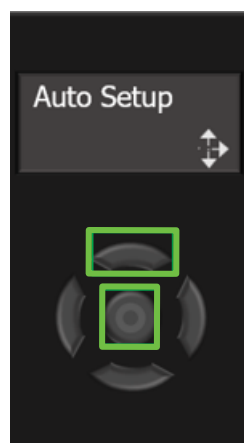
Use Up and Down arrows to set correct Control Function (Three Wire, Two Wire, DI-Prog Reset, DI-Prog Hold, DI-Prog Enable, DI-Prog Fire)



When correct Control Function is highlighted press the Centre button



Press the Left arrow button to return to the Auto setup page



Press the Up arrow and the Centre button to return to the main page

Programming

Auto Application set-up Parameter Settings

Application	Initial Volts (%)	Start Time (S)	Stop Time (S)	Trip Class	Current Limit (x FLC)	Current Limiting Time (S)
Default	20	1	0	10	3.5	30
Heavy	40	10	0	20	4	40
Agitator	30	10	0	10	3.5	25
Compressor 1	40	15	0	20	3.5	25
Compressor 2	35	7	0	10	3.5	25
Conveyor Loaded	10	10	7	20	5.5	30
Conveyor Unloaded	10	10	7	10	3.5	30
Crusher	40	10	0	30	3.5	60
Fan High Inertia	40	10	0	30	3.5	60
Fan Low Inertia	30	15	0	10	3.5	30
Grinder	40	10	0	20	3.5	40
Mill	40	10	0	20	3.5	40
Mixer	10	10	0	20	4	25
Moulding M/C	10	10	0	10	4.5	25
Press Flywheel	40	10	0	20	3.5	40
Pump 1	10	10	60	10	3.5	25
Pump 2	10	10	60	20	3.5	25
Pumpjack	40	10	0	20	3.5	40
Saw (Band)	10	10	0	10	3.5	25
Saw (Circular)	40	10	0	20	3.5	40
Screen (Vibrating)	40	10	0	20	4.5	40
Shredder	40	10	0	30	3.5	60
Woodchipper	40	10	0	30	3.5	60
Compressor 1 = Centrifugal, Reciprocating, Rotary Screw						
Compressor 2 = Rotary Vale, Scroll						
Pump 1 = Submersible, Centrifugal, Rotodynamic						
Pump 2 = Positive Displacement, Reciprocating Rotary						

Sizing guide

Vertically Mounted

Use tables to determine the size of the RS PRO VMX-agility required for the motor selected:

I _e A ³⁾	kW ¹⁾			FLA A ³⁾	HP ²⁾					Trip Class 10	Trip Class 20	Trip Class 30
	230V	400V	500V ⁴⁾		200V	208V	220-240V	440-480V	550-600V ⁴⁾	I _e : AC-53a: 3.5-17: F-S RS PRO VMX-agility ⁵⁾	I _e : AC-53a: 4-19: F-S RS PRO VMX-agility ⁵⁾	I _e : AC-53a: 4-29: F-S RS PRO VMX-agility ⁵⁾
17	4	7.5	7.5	17	3	5	5	10	15	206-096 (17A)	206-098 (22A)	206-099 (29A)
22	5.5	11	11	22	5	5	7.5	15	20	206-098 (22A)	206-099 (29A)	206-101 (35A)
29	7.5	15	15	27	7.5	7.5	7.5	20	25	206-099 (29A)	206-101 (35A)	206-102 (41A)
35	7.5	18.5	22	34	10	10	10	25	30	206-101 (35A)	206-102 (41A)	206-103 (55A)
41	11	22	22	41	10	10	10	30	40	206-102 (41A)	206-103 (55A)	206-105 (66A)
55	15	30	37	52	15	15	15	40	50	206-103 (55A)	206-105 (66A)	206-106 (80A)
66	18.5	37	45	65	20	20	20	50	60	206-105 (66A)	206-106 (80A)	206-108 (106A)
80	22	45	55	77	20	25	25	60	75	206-106 (80A)	206-108 (106A)	206-109 (132A)
106	30	55	75	100	30	30	30	75	100	206-108 (106A)	206-109 (132A)	206-111 (160A)
132	37	75	90	125	40	40	40	100	125	206-109 (132A)	206-111 (160A)	206-112 (195A)
160	45	90	110	156	50	50	60	125	150	206-111 (160A)	206-112 (195A)	206-114 (242A)
195	55	110	132	192	60	60	60	150	200	206-112 (195A)	206-114 (242A)	206-115 (301A)
242	75	132	160	242	75	75	75	200	250	206-114 (242A)	206-115 (301A)	206-117 (361A)
302	90	160	200	302	100	100	100	250	300	206-115 (301A)	206-117 (361A)	-
361	110	200	250	361	125	125	150	300	350	206-117 (361A)	-	-

¹⁾ Rated operational powers in kW as per IEC 60072-1 (primary series) corresponding to IEC current rating.

²⁾ Rated operational powers in HP as per UL508 corresponding to FLA current rating.

³⁾ The I_e and FLA rating applies for a maximum surrounding air temperature of 40°C. Above 40°C de-rate linearly by 2% of I_e or FLA per °C to a maximum of 60°C.

⁴⁾ kW and Hp ratings applicable for 206-096 (17A) to 206-117 (361A) models only.

⁵⁾ For 206-096 (17A) to 206-112 (195A), duty cycle F-S = 90-5, however more cycles per hour are possible with optional fan fitted as indicated in Fan option table. For 206-114 (242A) to 206-117 (361A), duty cycle F-S = 90-3. For more cycles consult supplier.

Sizing guide

Horizontally Mounted

Use tables to determine the size of the RS PRO VMX-agility required for the motor selected:

I _e A ³⁾	kW			FLA A ³⁾	HP					Trip Class 10	Trip Class 20	Trip Class 30
	230V	400V	500V		200V	208V	220-240V	440-480V	550-600V	I _e : AC-53a: 3.5-17: 90-5 RS PRO VMX- agility ¹⁾	I _e : AC-53a: 4-19: 90-5 RS PRO VMX- agility ¹⁾	I _e : AC-53a: 4-29: 90-5 RS PRO VMX- agility ¹⁾
17	4	7.5	7.5	17	3	5	5	10	15	206-096 (17A)	206-098 (22A)	206-099 (29A)
17	4	7.5	7.5	17	3	5	5	10	15	206-098 (22A)	206-099 (29A)	206-101 (35A)
22	5.5	11	11	22	5	5	7.5	15	20	206-099 (29A)	206-101 (35A)	206-102 (41A)
29	7.5	15	15	27	7.5	7.5	7.5	20	25	206-101 (35A)	206-102 (41A)	206-103 (55A)
35	7.5	18.5	22	34	10	10	10	25	30	206-102 (41A)	206-103 (55A)	206-105 (66A)
41	11	22	22	41	10	10	10	30	40	206-103 (55A)	206-105 (66A)	-
55	15	30	37	52	15	15	15	40	50	206-105 (66A)	-	-

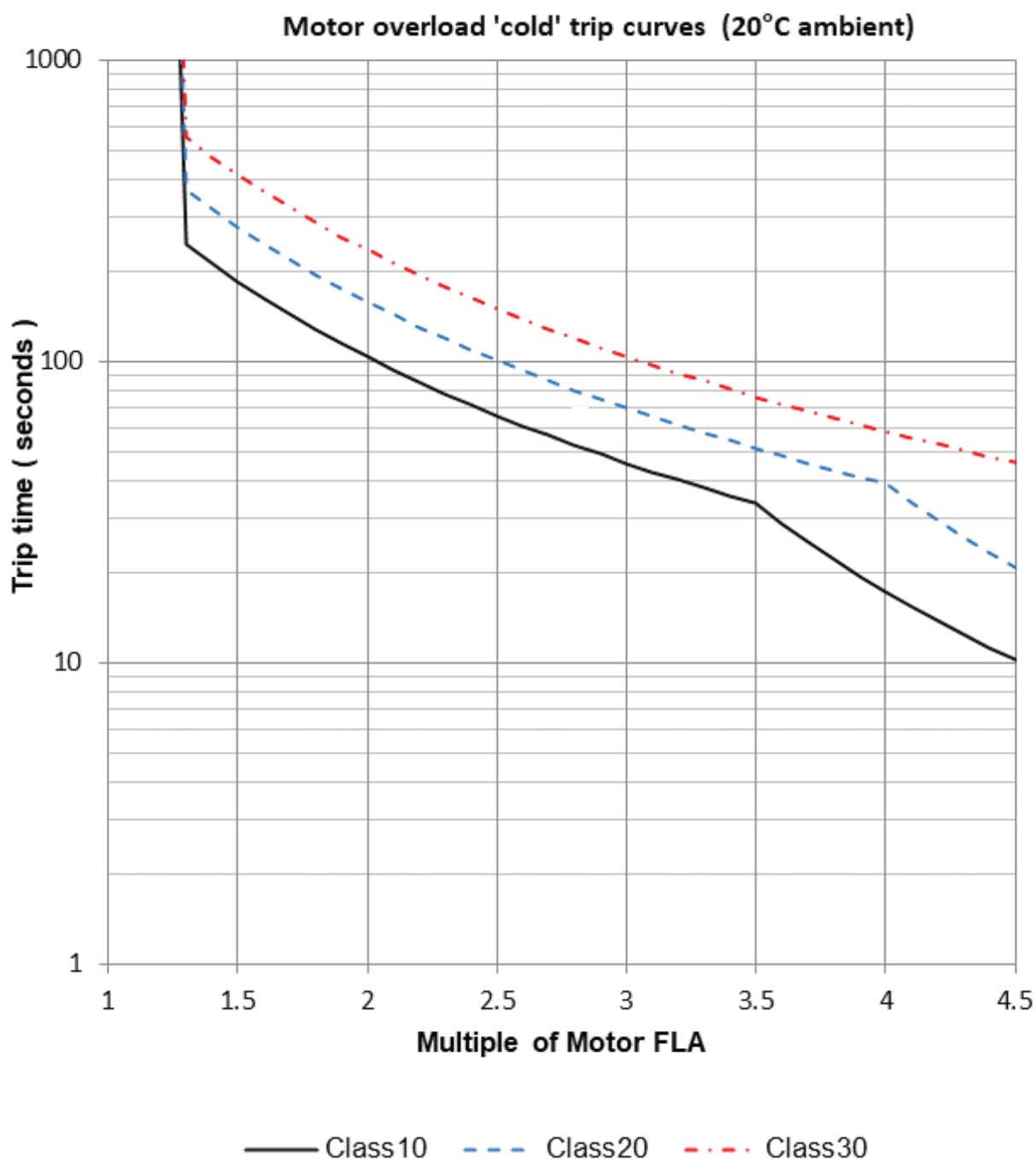
¹⁾ Rated operational powers in kW as per IEC 60072-1 (primary series) corresponding to IEC current rating.

²⁾ Rated operational powers in hp as per UL508 corresponding to FLA current rating.

³⁾ The I_e and FLA rating applies for a maximum surrounding air temperature of 40°C. Above 40°C de-rate linearly by 2% of I_e or FLA per °C to a maximum of 60°C.

Overload trip curves

RS PRO VMX-agility provides full motor overload protection, configurable through the user interface. Overload trip settings are determined by the Motor Current setting and the Trip Class setting. Trip Class choices are Class 10, Class 20, and Class 30. The RS PRO VMX-agility soft-starters are protected using full I²T motor overload with memory.



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

Product standard		EN 60947-4-2			
Rated operational voltages	U _e	200VAC to 600VAC			
Rated operational currents	I _e	See Sizing Guide			
Rating index		See Sizing Guide			
Rated frequency/frequencies		50 - 60Hz ± 5Hz			
Rated duty		Uninterrupted			
Form designation		Form 1, Internally Bypassed			
Method of operation		Symmetrically controlled starter			
Method of control		Semi-automatic			
Method of connecting		Thyristors connected between motor winding and supply			
Number of poles		3 main poles, 2 main controlled by semiconductor switching element			
Rated insulation voltage	U _i	600V			
		Control supply circuit	230VAC r.m.s ¹⁾		
Rated impulse withstand voltage	U _{imp}	Main circuit	6kV ⁶⁾		
IP code		Main circuit	IP00 (IP20 with optional finger guards) ⁵⁾		
		Supply and Control circuit	IP20		
Pollution degree		III/3			
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			
As standard	Control Supply ²⁾	Supply Input	0, 24VDC	Protect with UL248 listed fuse rated Max 4A	
		Kind of current, rated frequency	DC, 50 - 60Hz ± 5Hz		
		Rated Voltage U _s	24VDC		
		Maximum Power Consumption	12VA (206-096 (17A) to 206-105 (66A)) 48VA (206-106 (80A) to 206-117 (361A))		
	Control Circuit ²⁾	Programmable opto-isolated inputs	D1, D2		
		Common inputs, marking	COM		
		Kind of current, rated frequency	DC, 50 - 60Hz ± 5Hz		
		Rated Voltage U _c	24VDC		
	With optional Power Supply Module (206-044)	Control Supply	Supply Input		L, N
			Kind of current, rated frequency		AC, 50 - 60Hz ± 5 Hz
Rated Voltage U _s			110 to 230VAC		
Rated input current			210mA max (cont.) 1A Peak		
Control Circuit		Programmable opto-isolated inputs	D1, D2		
		Common inputs, marking	COM		
		Kind of current, rated frequency	AC, 50 - 60Hz ± 5 Hz		
		Rated Voltage U _c	110 to 230VAC		
Auxiliary Circuit ³⁾	Form A - Single gap make-contact (normally open)	13 / 14			
	Form B - Single gap make-contact (normally closed)	21 / 22			
	Utilisation category, voltage rating, current rating	Resistive load, 230VAC, 2A. Cos∅ = 0.5, 250VAC, 2A ⁴⁾			

Technical information

Electronic overload relay with manual reset and thermal memory	Trip class	10 (Factory default), 20 or 30 (selectable)
	Current setting	See electronic overload relay current settings
	Rated frequency	50 to 60Hz $\pm$ 5Hz
	Time-current characteristics	See Overload Trip Curves (Trip time T_p $\pm$ 20%)

1) With optional 206-044 power supply module.

2) Must be supplied by class 2, limited voltage current or protected by a 4A UL 248 listed fuse.

3) Compliant with Annex S of IEC 60947-1:2007 at 24VDC.

4) Not applicable for UL.

5) For models 206-096 (17A) to 206-112 (195A) the main circuit IP20 rating only applies when the finger guards as supplied are correctly fitted.

6) Transient surge suppression shall be installed on the line side of this equipment and shall be rated 600VAC (phase to phase), suitable for overvoltage category III, and shall provide protection for a rated impulse withstand voltage peak of 6kV.

NOTE:

The safety functions were not evaluated by UL. Listing is accomplished according to requirements of Standard UL 508 and CSA14-13, general use applications.

The current limiting function and phase loss protection is limited to the ramping period only.

Environmental specification

Model (RS PRO VMX-agility...)	206-096 (17A)	206-098 (22A)	206-099 (29A)	206-101 (35A)	206-102 (41A)	206-103 (55A)	206-105 (66A)
Frame Size	1						
Heat Output (W)	9	12	14	16	20	25	30
Weight kg (lbs)	1.97 (4.20)						
Model (RS PRO VMX-agility...)	206-106 (80A)	206-108 (100A)	206-109 (132A)	206-111 (160A)	206-112 (195A)		
Frame Size	2						
Heat Output (W)	37	49	61	74	90		
Weight kg (lbs)	6 (13.23)						
Model (RS PRO VMX-agility...)	206-114 (242A)	206-115 (302A)	206-117 (361A)				
Frame Size	3						
Heat Output (W)	111	139	166				
Weight kg (lbs)	15 (33.10)						
Ambient Operating Temperature	-20°C (-4°F) to 40°C (122°F). Above 40°C (104°F) de-rate linearly by 2% of RS PRO VMX-agility I _e per °C to a maximum of 60°C (140°F)						
Transportation and Storage Temperature	-20°C (-4°F) to 70°C (158°F) continuous						
Humidity	Max 85% non-condensing, not exceeding 50% @ 40°C						
Maximum Altitude	Altitude above sea level 1000m (3281ft). Above 1000m (3281ft) de-rate by 1% of RS PRO VMX-agility I _e per 100m (328ft) to a maximum altitude of 2000m (6562ft)						
Environmental Rating	Main circuit IP00 (IP20 with finger guards for 206-096 (17A) to 206-112 (195A) Control circuit IP20, no corrosive gases permitted						

Electronic overload relay current settings

Frame size	Size 1							Size 2					Size 3		
Type Designation	206-096 (17A)	206-098 (22A)	206-099 (29A)	206-101 (35A)	206-102 (41A)	206-103 (55A)	206-105 (66A)	206-106 (80A)	206-108 (100A)	206-109 (132A)	206-111 (160A)	206-112 (195A)	206-114 (242A)	206-115 (302A)	206-117 (361A)
Min A	7	7	7	7	7	7	7	20	20	20	20	20	36	36	36
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Max A	17	22	29	35	41	55	66	80	106	132	160	195	242	302	361

Electromagnetic compatibility

EMC Emission Levels	EN55011	Class A ¹⁾
EMC Immunity Levels	IEC 61000-4-2	8kV/Air discharge or 4kV/contact discharge
	IEC 61000-4-3	10V/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 6100-4-6	10V
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.		

Short circuit protection

Size 1

Type designation (eg. RS PRO VMX-agility...)			206-096 (17A)	206-098 (22A)	206-099 (29A)	206-101 (35A)	206-102 (41A)	206-103 (55A)	206-105 (66A)
Rated operational currents	I_e	A	17	22	29	35	41	55	66
Rated conditional short circuit current	I_q	kA	5	5	5	5	5	5	10
Class J time-delay fuse ¹⁾	Maximum rating Z_1	A	30	40	50	60	70	100	125
UL Listed inverse-time delay circuit breaker ¹⁾	Maximum rating Z_2	A	60	60	60	60	60	150	150
Semiconductor fuse (class aR) ²⁾	Type		Mersen 6,9 URD 30____ Bussmann 170M30____ Bussmann 170M31____ Bussmann 170M32____ SIBA 20 61____				Mersen 6,9 URD 31____ Bussmann 170M40____ Bussmann 170M41____ Bussmann 170M42____ SIBA 20 61____		
	Fuse rating	A	160	160	200	200	250	250	250

Size 2 + 3

Type designation (eg. RS PRO VMX-agility...)			206-106 (80A)	206-108 (100A)	206-109 (132A)	206-111 (160A)	206-112 (195A)	206-114 (242A)	206-115 (302A)	206-117 (361A)
Rated operational currents	I_e	A	80	100	132	160	195	242	302	361
Rated conditional short circuit current	I_q	kA	10	10	10	10	10	18	18	18
Class J time-delay fuse ¹⁾	Maximum rating Z_1	A	150	200	250	300	400	450	600	600
UL Listed inverse-time delay circuit breaker ¹⁾	Maximum rating Z_2	A	250	300	350	450	500	700	800	800
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	400	550	550	500	800	900	1000

- Notes:**
- 1). Suitable for use on A circuit capable of delivering not more than ____ I_e rms Symmetrical Amperes, 600 Volts maximum, when protected by Class J time delay Fuses as indicated with a Maximum rating of ____ Z_1 ____ or by a Circuit Breaker with a Maximum rating of ____ Z_2 ____.
- 2). Correctly selected semiconductor fuses can provide additional protection against damage to the RS PRO VMX-agility unit. These semiconductor fuses are recommended to provide this increased protection.

Short circuit protection for 65kA fault current

Size 1

Type designation (eg. RS PRO VMX-agility...)			206-096 (17A)	206-098 (22A)	206-099 (29A)	206-101 (35A)	206-102 (41A)	206-103 (55A)	206-105 (66A)
Rated operational currents	I_e	A	17	22	29	35	41	55	66
Rated conditional short circuit current	I_q	kA	5	5	5	5	5	5	10
Class J time-delay fuse ¹⁾	Maximum rating Z_1	A	30	40	50	60	70	100	125
UL Listed inverse-time delay circuit breaker ¹⁾	Maximum rating Z_2	A	60	60	60	60	60	150	150

Size 2 + 3

Type designation (eg. RS PRO VMX-agility...)			206-106 (80A)	206-108 (100A)	206-109 (132A)	206-111 (160A)	206-112 (195A)	206-114 (242A)	206-115 (302A)	206-117 (361A)
Rated operational currents	I_e	A	80	100	132	160	195	242	302	361
Rated conditional short circuit current	I_q	kA	10	10	10	10	10	18	18	18
Class J time-delay fuse ¹⁾	Maximum rating Z_1	A	150	200	250	250	250	400	400	400
UL Listed inverse-time delay circuit breaker ¹⁾	Maximum rating Z_2	A	250	250	250	250	250	450	450	450

Notes:
¹⁾ Suitable for use on A circuit capable of delivering not more than I_g rms Symmetrical Amperes, 600 Volts maximum, when protected by Class J time delay Fuses as indicated with a Maximum rating of Z_1 or by a Circuit Breaker with a Maximum rating of Z_2 .

Optional extras

Accessories

The following accessories have been developed and tested for use with the RS PRO VMX-agility range of soft-starters:

206-042 Remote keypad for RS PRO VMX-agility. Provides remote functionality for up to 32 soft-starterer units.

206-044 100Vac – 240VAC power supply. Provides mains voltage control power and digital control functionality.

206-045 Cooling fan accessory for 206-096 (17A) to 206-105 (66A) only. Increases the number of starts per hour see table below.

206-046 Cooling fan accessory for 206-106 (80A) to 206-112 (195A) only. Increases the number of starts per hour see table below.

RS PRO VMX-agility model	Maximum duty cycle F-S with optional fan fitted
206-096 (17A) to 206-108 (100A)	90-40 (40 cycles per hour)
206-109 (132A)	90-30 (30 cycles per hour)
206-111 (160A)	90-20 (20 cycles per hour)
206-112 (195A)	90-10 (10 cycles per hour)
Note: 206-114 (242A) to 206-117 (361A) have permanently fitted fans as standard.	

Electric current, Danger to life! Only skilled or instructed persons may carry out the operations.	Livs fara genom elektrisk ström! Endast utbildade elektriker och personer som undervisats i elektroteknik får utföra de arbeten som beskrivs nedan.
Lebensgefahr durch Strom! Nur Elektrofachkräfte und elektrotechnisch unterwiesene Personen dürfen die im Folgenden beschriebenen Arbeiten ausführen.	Hengenvaarallinen jännite! Vain pätevät sähköasentajat ja opastusta saaneet henkilöt saavat suorittaa seuraavat työt.
Tension électrique dangereuse! Seules les personnes qualifiées et averties doivent exécuter les travaux ci-après.	Nebezpečí úrazu elektrickým proudem! Niže uvedené práce smějí provádět pouze osoby s elektrotechnickým vzděláním.
¡Corriente eléctrica! ¡Peligro de muerte! El trabajo a continuación descrito debe ser realizado por personas cualificadas y advertidas.	Eluhtlik! Elektrilöögioht! Järgnevalt kirjeldatud töid tohib teostada ainult elektriala spetsialist või elektrotehnilise instrueerimise läbinud personal.
Tensione elettrica: Pericolo di morte! Solo persone abilitate e qualificate possono eseguire le operazioni di seguito riportate.	Életveszély az elektromos áram révén! Csak elektromos szakemberek és elektrotechnikában képzett személyek végezhetik el a következőkben leírt munkákat.
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。	Elektriskō strōva apdraud dzīvībai! Tīlāk aprakstītais darbus drīkst veikt tikai elektrospeciālisti un darbam ar elektrotehnikām iekārtām instruētišas personas!
Электрический ток! Опасно для жизни! Только специалисты или проинструктированные лица могут выполнять следующие операции.	Pavojus gyvybei dėl elektros srovės! Tik elektrikai ir elektrotechnikos specialistai gali atlikti žemiau aprašytus darbus.
Levensgevaar door elektrische stroom! Uitsluitelijk deskundigen in elektriciteit en elektrotechnisch geïnstrueerde personen is het toegestaan, de navolgend beschrevene werkzaamheden uit te voeren.	Porażenie prądem elektrycznym stanowi zagrożenie dla życia! Opisane poniżej prace mogą przeprowadzać tylko wykwalifikowani elektrycy oraz osoby odpowiednio poinstruowane w zakresie elektrotechniki.
Livsfare på grund af elektrisk strøm! Kun uddannede el-installatører og personer der er instruerede i elektrotekniske arbejdsopgaver, må udføre de nedenfor anførte arbejder.	Življenjska nevarnost zaradi električnega toka! Spodaj opisana dela smejo izvajati samo elektrostrokovnjaki in elektrotehnično poučene osebe.
Προσοχή, κίνδυνος ηλεκτροπληξίας! Οι εργασίες που αναφέρονται στη συνέχεια θα πρέπει να εκτελούνται μόνο από ηλεκτρολόγους και ηλεκροτεχνίτες.	Nebezpečnostv ohrozenia života elektrickým prúdom! Práce, ktoré sú nižšie opísané, smú vykonávať iba elektroodborníci a osoby s elektrotechnickým vzdelaním.
Perigo de vida devido a corrente eléctrica! Apenas electricistas e pessoas com formação electrotécnica podem executar os trabalhos que a seguir se descrevem.	Опасност за живота от электрически ток! Операциите, описани в следващите раздели, могат да се извършват само от специалисти-електротехници и инструктиран електротехнически персонал.
Livs fara genom elektrisk ström! Endast utbildade elektriker och personer som undervisats i elektroteknik får utföra de arbeten som beskrivs nedan.	Atenție! Pericol electric! Toate lucrările descrise trebuie efectuate numai de personal de specialitate calificat și de persoane cu cunoștințe profunde în electrotehnică.
Hengenvaarallinen jännite! Vain pätevät sähköasentajat ja opastusta saaneet henkilöt saavat suorittaa seuraavat työt.	Življenjska nevarnost zaradi električnega toka! Spodaj opisana dela smejo izvajati samo elektrostrokovnjaki in elektrotehnično poučene osebe.
Nebezpečí úrazu elektrickým proudem! Niže uvedené práce smějí provádět pouze osoby s elektrotechnickým vzděláním.	Nebezpečnostv ohrozenia života elektrickým prúdom! Práce, ktoré sú nižšie opísané, smú vykonávať iba elektroodborníci a osoby s elektrotechnickým vzdelaním.
Eluhtlik! Elektrilöögioht! Järgnevalt kirjeldatud töid tohib teostada ainult, elektriala spetsialist või elektrotehnilise, järgnevalt kirjeldatud töid tohib teostada ainult, instrueerimise läbinud personal.	Опасност за живота от электрически ток! Операциите, описани в следващите раздели, могат да се извършват само от, специалисти-електротехници и инструктиран
Életveszély az elektromos áram révén! Csak elektromos szakemberek és elektrotechnikában képzett személyek végezhetik el a következőkben leírt munkákat.	Atenție! Pericol electric! Toate lucrările descrise trebuie efectuate numai de personal de specialitate calificat și de persoane cu cunoștințe profunde în electrotehnică.
Elektriskō strōva apdraud dzīvībai! Tīlāk aprakstītais darbus drīkst veikt tikai elektrospeciālisti un darbam ar elektrotehnikām iekārtām instruētišas personas!	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.	

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.

Notes

[illegible]

Notes

[illegible]

Notes

[illegible]



RS PRO VMX-agility

Quick Start Guide