



# RVS-DX

**Digital Soft Starter with internal ByPass**  
**8-1100A, 220-600V**



The **RVS-DX** is a third generation, highly sophisticated and reliable starter designed for use with standard three-phase, three-wire, squirrel cage, induction motors.

It provides the best method of reducing current and torque during motor starting.

The RVS-DX starts the motor by supplying a slowly increasing voltage, providing soft start and smooth acceleration, while drawing the minimum current necessary to start the motor.

The RVS-DX is equipped with internal by-pass controlled by its micro-controller. The by-pass closes after the end of the starting process, thus reducing heating and saving power.

## Rating and frames sizes

Starter type	Starter FLC [A]	Frame Size	Dimensions WxHxD [mm]	Weight [Kg]
RVS-DX 8	8	D1	120x232x122	3.0
RVS-DX 17	17	D1	120x232x122	3.0
RVS-DX 31	31	D1	120x232x122	3.0
RVS-DX 44	44	D1	120x232x122	3.0
RVS-DX 58	58	D2	129x275x182	5.2
RVS-DX 72	72	D2	129x275x182	5.2
RVS-DX 85	85	D3	129x380x182	8.5
RVS-DX 105	105	D3	129x380x182	8.5
RVS-DX 145	145	D4	172x380x192	12.5
RVS-DX 170	170	D4	172x380x192	12.5
RVS-DX 210	210	D5	310x521x300	42
RVS-DX 310	310	D5	310x521x300	42
RVS-DX 390	390	D5	310x521x300	C
RVS-DX 460	460	D6	455x663x328	C
RVS-DX 580	580	D7	455x683x328	C
RVS-DX 650	650	D7	455x683x328	C
RVS-DX 820	820	D7	455x683x328	C
RVS-DX 950	950	D8	515x833x341	C
RVS-DX 1100	1100	D8	515x833x341	C

### Ordering Information

RVS-DX 31- 400- 230- 0- S  
 Full load Current Mains Voltage Control Voltage Options Front Panel

Specify	Description
Starter's FLC [A]	8, 17, 31, 44, 58, 72, 85, 105, 145, 170, 210, 310, 390, 460, 580, 650, 820, 950, 1100

Specify	Description
400	230 – 440 VAC, 50/60Hz
490	460 – 500 VAC, 50/60Hz
600	575 – 600 VAC, 50/60Hz

Specify	Description
115	97 – 126 VAC, 50/60Hz
230	195 – 250 VAC, 50/60Hz

**Note:**

- Control voltage can be changed on site for RVS-DX up to 170A.
- For RVS-DX 210A and up control voltage must be ordered from factory.

Specify	Description
0	No options
3M	Communication RS-485 (MODBUS) <sup>(1)</sup>
S	Analog card – Thermistor in and Analog out <sup>(1)</sup>
H	Harsh environment treatment
D	Remote panel mounting replacing the original panel. (supplied with 1.5 m cable)
L	Illuminated LCD
F	Unit supplied with fan (consult factory) <sup>(2)</sup>

**Notes:**

- For more than one option indicate, for example: 8+L (Harsh environment and illuminated LCD)
- Options must be factory installed.
- <sup>(1)</sup> From RVSDX-8A and up to RVS-DX44A - One card can be installed - either communication card or analog card.
- From RVS-DX58A and up - both cards can be installed. Both options must be ordered as one package.
- <sup>(2)</sup> Fan option is available from RVS-DX 210A and up.

Specify	Description
S	Standard

**Example:**  
 RVS-DX rated 820A, mains voltage- 230V, control voltage- 115V, Modbus communication card, Analog card, Harsh environment treatment, illuminated LCD and standard front panel:  
 RVS-DX 820- 400- 115- 3M+S+8L - S



# RVS-DN

Digital Soft Starter  
8-3000A, 220-1000V



The **RVS-DN** is a highly sophisticated and reliable soft starter designed for use with standard three-phase, three-wire and six-wire, squirrel cage induction motors. It provides the best method of reducing current and torque during motor starting.

The RVS-DN starts the motor by supplying a slowly increasing voltage to the motor. This provides soft start and smooth, stepless acceleration while drawing the minimum current necessary to start the motor.

The third generation, microprocessor based digital control provides unique features like pump control, slow speed, electronic reversing and accurate motor protection. RVS-DN models can be supplied with options for insulation protection, thermistor input & analog output, etc.

The optional RS 485 Communication with Modbus protocol or the optional Profibus protocol enables full control (START, STOP, DUAL ADJUST, Command, etc.) and supervision.

## Rated Currents and Frame Sizes

RVS-DN Model	RVS-DN FLC [A]	Frame Size	Dimensions WxHxD [mm]	Weight [Kg]
RVS-DN 8	8	A	153x310x170	4.5
RVS-DN 17	17	A	153x310x170	4.5
RVS-DN 31	31	A	153x310x170	6.0
RVS-DN 44	44	A	153x310x170	7.5
RVS-DN 58	58	A	153x310x170	7.5
RVS-DN 72	72	A	153x310x217	7.5
RVS-DN 85	85	B	274x385x238	14.5
RVS-DN 105	105	B	274x385x238	14.5
RVS-DN 145	145	B	274x385x238	14.5
RVS-DN 170	170	B	274x385x238	14.5
RVS-DN 210	210	C	380x455x292 (1)	32
RVS-DN 310	310	C	380x455x292 (1)	32
RVS-DN 390	390	C	380x455x292 (1)	32
RVS-DN 480	480	D	380x455x292 (1)	39
RVS-DN 580	580	D	470x840x302 (1)	48
RVS-DN 820	820	D	470x110x302 (1)	85
RVS-DN 950	950	D	470x115x302 (2)	85
RVS-DN 1100	1100	E	623x890x290 (3)	83.5
RVS-DN 1400	1400	E	723x1100x370 (3)	170
RVS-DN 1800	1800	E	723x1100x370 (3)	170
RVS-DN 2160	2160	F	750x1300x392 (3)	240
RVS-DN 2400	2400	G	900x1300x410 (3) (4)	350
RVS-DN 2700	2700	G	900x1300x410 (3) (4)	350
RVS-DN 3000	3000	G	900x1300x410 (3) (4)	350
RVS-DN 105 1000V	105		325x400x300 (5)	
RVS-DN 170 1000V	170		562x500x345 (5)	
RVS-DN 210 1000V	210		562x500x345 (5)	
RVS-DN 310 1000V	310		562x500x345 (5)	
RVS-DN 390 1000V	390		562x500x345 (5)	
RVS-DN 480 1000V	480		562x500x345 (5)	

### Notes:

- (1) - Different dimensions when ordered with UL/cUL/marine approvals. Refer to section 5.3 page 47 for dimensions when ordered with these approvals.
- (2) - Dimensions with preparation for bypass.
- (3) - Must be operated with bypass contactor. Add space for current transformers and bus bars for preparation for bypass.
- (4) - Control module is installed separately. Refer to section 5.1.1 page 45 for dimensions.

### Ordering Information

RVS-DN	31-400- Full load current	230- Mains voltage	230- Control supply voltage	0-230- Control input voltage	0- Options	\$ Front Panel
<b>Specify</b>	<b>Description</b>					
RVS-DN's FLC [A]	8, 17, 31, 44, 58, 72, 85 <sup>(1)</sup> , 105 <sup>(1)</sup> , 145 <sup>(1)</sup> , 170 <sup>(1)</sup> , 210, 310, 390, 480, 580, 820, 950 <sup>(1)</sup> , 1100 <sup>(1)</sup> , 1400 <sup>(1)</sup> , 1800 <sup>(1)</sup> , 2160 <sup>(1)</sup> , 2700 <sup>(1)</sup> , 3000 <sup>(1)</sup>					
<b>Specify</b>	<b>Description</b>					
400	230 - 400 VAC, +10% -15%, 50/60Hz					
480	480 VAC, +10% -15%, 50/60Hz					
500	500 VAC, +10% -15%, 50/60Hz					
590	590 VAC, +10% -15%, 50/60Hz					
1000 <sup>(1)</sup>	1000 VAC, +10% -15%, 50/60Hz. Models: 105A, 170A, 210A, 310A, 390A, 480A.					
<b>Specify</b>	<b>Description</b>					
115	115 VAC, 50/60Hz, +10% -15%					
230	230 VAC, 50/60Hz, +10% -15%					
110VDC	110VDC, +10% -15%					
<b>Specify</b>	<b>Description</b>					
24	24V AC/DC, +10% -15%					
48	48V AC/DC, +10% -15%					
<b>Specify</b>	<b>Description</b>					
0	No options					
3M	Communication - RS-485 (Modbus) <sup>(1)(2)</sup>					
3P	Communication - Profibus <sup>(1)</sup> (Must be factory supplied)					
4	Insulation tester <sup>(1)(2)</sup>					
5	Analog card - Thermistor in and Analog out <sup>(1)(2)</sup>					
8	Harsh environment treatment. (Must be factory supplied)					
9	Preparation for Bypass contactor <sup>(1)(2)</sup>					
B	Line and load bus bars at bottom (Applicable in Marine/UL models 210-820A)					
D	Remote panel mounting (replaces the original panel, supplied with 1.5 m cable)					
H	Special character set LCD display					
M	Marine approval (consult factory)					
U	UL & cUL approval (8-820A models only)					
T	Tachometer card for special drive systems (consult factory) <sup>(1)(2)</sup>					
ROC	Chinese display					
<b>Specify</b>	<b>Description</b>					
0	Standard					
RU	Russian front panel and Russian characters LCD display.					

- Notes:**
- (1) RVS-DN 950-3000A and RVS-DN for 1000V must be operated with a bypass contactor. For usage without bypass contactor consult the factory.
  - (2) Preparation for bypass contactor is standard in RVS-DN 85-170A.
  - (3) Only one option, either 3M or 3P may be installed in one RVS-DN.
  - (4) Only one option, either 4 or 5 or T may be installed in one RVS-DN.
  - (5) All options must be factory installed in RVS-DN 8-72A.
  - (6) Current transformers (CTs) for RVS-DN950A and up are designed to allow installation within 1.5m from the RVS-DN (use the CTs for the RVS-DN only)
  - (7) If you need more than one option, make sure to indicate it with a plus sign (+), for example 8+3 for Harsh environment and preparation for bypass contactor.
- Ordering Example:** RVS-DN rated 800A, mains voltage - 230V, Control Supply voltage - 115V, control input - 115V Modbus communication card, Analog card, Harsh environment treatment, preparation for bypass and standard front panel:  
RVS-DN 820 - 400 - 115 - 3M + 5 + 8 + 3 - 8