

electronic starter for cage motors NOVADEM S3



The NOVADEM S3 soft starter is designed to control all aspects of starting, stopping and protection of 3 phase squirrel cage motors up to 1200 kW at 690 V.

These high performance digital starters offer a user interface which supports a quick programming method by using pre-configured application macros.

The NOVADEM S3 also comprises as standard a RS 232 serial link to communicate with a PC or network.

- **Continuous protection of motor and driven machine**

- **Pre-configured application macros**

- **Up to 1200 kW**

- **Alpha-numerical display**

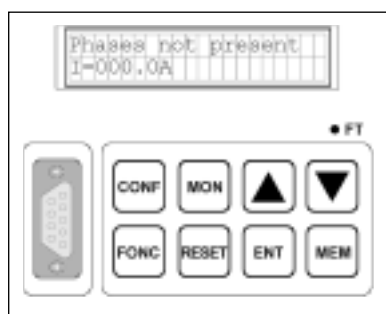
- **Serial communication interface**

programming

Dialogue.....
The NOVADEM S3 user interface comprises:

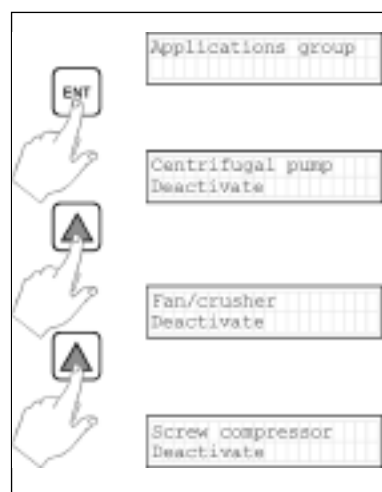
- Large 40 character alpha-numerical display
- 8 button keyboard
- RS232 serial link.

The powerful yet user-friendly software allows the programming and maintenance of the starter without the constant need for an operating manual.



Macro programming.....

The use of macros greatly simplify the programming of the starter: it only requires to know the nominal current of the motor and the nature of the application. The macro program corresponding to your machine not only selects the relevant parameter settings for you, it also configures the programmable I/O terminals. Numerous application macros are available, such as: centrifugal pumps, vacuum pumps, fans, compressors, grinders, conveyors However, if the application macro is not available, the NOVADEM S3 allows for easy programming of all the functions and parameters by means of the 40 character user interface.



protection

The NOVADEM S3 assures reliable and extensive protection of the driven machine.

- Protection of the network:

Supply voltage presence, phase inversion, phase loss, phase imbalance, momentary supply failure

- Protection of the motor:

Thermal protection, over voltage protection, underload protection, overload protection, motor short circuit, connection for PTC thermistor...

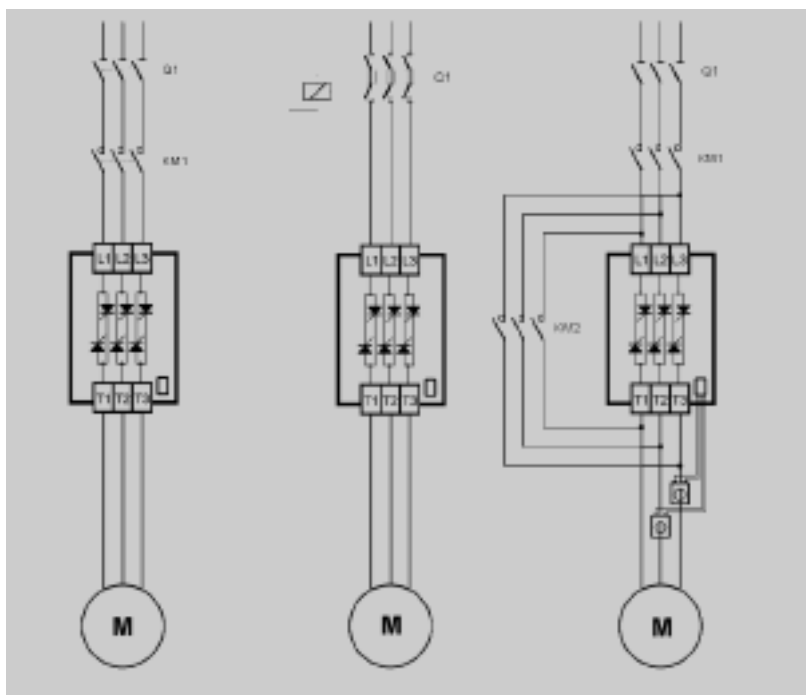
- Protection of the starter:

Thermal protection, data integrity, momentary supply loss detection, absence of current transformer, thyristor short circuit

Standard connection

Connection with circuit breaker

Connection with by-pass contactor



The NOVADEM S3 allows for a straight forward installation of the motor and can be employed in accordance with the 3 main wiring examples as shown above. In each case, the NOVADEM gives continuous protection of the motor.

diagnostics

NOVADEM S3 information.....



The display shows the status of the driven machine and simultaneously, the real-time data samples of 2 out of 8 chosen operation statistics.

This monitoring function allows for the dynamic tracking of the motor current, power factor, active and reactive power,

motor speed, thermal state, motor torque or the programmable inputs and outputs. This customizable function can also show the number of hours the starter has been running, the number of starts, the four last faults or the list of modified parameters.

control functions

The NOVADEM S3 comprises the following I/O signals:

- 4 opto isolated inputs, of which two are programmable (a range of 10 different functions and parameters can be associated with each input).
- 3 relay outputs, of which two are pro-

grammable (12 variables available).

- 1 programmable analogue output (9 variables available)
- 1 programmable analogue input (speed feedback, speed variation, starting current)
- RS 232 serial link.

Options: Multi-Option card (ref: OPT-MUL) offering an additional isolated analogue output 4-20 mA, 2 opto-isolated inputs and 2 programmable relay outputs.

specifications

Model range for 3 x FLC or 4 x FLC
(see following tables)

● 3 x FLC models for low or medium load machines, e.g. centrifugal pumps, screw compressors.

● 4 x FLC models for high starting torque, e.g. conveyor belts, grinders or longer starting times, such as fans.

230 V and 400 V models

Novadem Ref.	Max motor power 3 phase 230V		Max. motor power 3 phase 400V		Dimensions W x H x D	Weight
	3 x FLC	4 x FLC	3 x FLC	4 x FLC		
NS3-41-25	5.5 kW	4 kW	11 kW	7.5 kW	200 x 370 x 182 mm	8.5 kg
NS3-41-55	11 kW	5.5 kW	18.5 kW	11 kW		
NS3-41-90	15 kW	7.5 kW	22 kW	15 kW		
NS3-42-90	18.5 kW	11 kW	30 kW	18.5 kW	200 x 370 x 255 mm	10 kg
NS3-42-91	22 kW	15 kW	37 kW	22 kW		
NS3-42-132	25 kW	18.5 kW	45 kW	30 kW		
NS3-42-160	30 kW	22 kW	55 kW	45 kW		
NS3-43-250	37 kW	27 kW	75 kW	55 kW	200 x 470 x 265 mm	16 kg
NS3-43-251	45 kW	30 kW	90 kW	63 kW		
NS3-43-300	55 kW	45 kW	110 kW	75 kW		
NS3-44-300	75 kW	55 kW	132 kW	90 kW	454 x 685 x 285 mm	44 kg
NS3-44-500	90 kW	63 kW	160 kW	110 kW		
NS3-44-600	132 kW	90 kW	200 kW	160 kW		
NS3-45-760	160 kW	110 kW	250 kW	200 kW	454 x 685 x 285 mm	49 kg
NS3-45-120	200 kW	150 kW	335 kW	250 kW		
NS3-45-150	220 kW	160 kW	400 kW	280 kW	454 x 685 x 285 mm	52 kg
NS3-47-120	250 kW	200 kW	450 kW	335 kW	530 x 1 340 x 420 mm	165 kg
NS3-47-180	315 kW	250 kW	560 kW	400 kW		
NS3-47-230	400 kW	280 kW	670 kW	500 kW		

500 V models

Novadem Ref.	Max motor power 3 phase 500 V		Dimensions W x H x D	Weight
	3 x FLC	4 x FLC		
NS3-51-25	11 kW	7,5 kW	200 x 370 x 182 mm	8.5 kg
NS3-51-55	22 kW	15 kW		
NS3-51-90	30 kW	18,5 kW		
NS3-52-90	37 kW	22 kW	200 x 370 x 255 mm	10 kg
NS3-52-91	45 kW	30 kW		
NS3-52-132	55 kW	37 kW		
NS3-52-160	75 kW	55 kW		
NS3-53-250	90 kW	55 kW	200 x 470 x 265 mm	16 kg
NS3-53-251	110 kW	75 kW		
NS3-53-300	132 kW	90 kW		
NS3-54-300	160 kW	110 kW	454 x 685 x 285 mm	44 kg
NS3-54-500	200 kW	132 kW		
NS3-54-600	250 kW	200 kW		
NS3-55-760	315 kW	250 kW	454 x 685 x 285 mm	49 kg
NS3-55-120	400 kW	315 kW		
NS3-56-120	450 kW	355 kW	640 x 715 x 390 mm	85 kg
NS3-57-120	500 kW	400 kW	530 x 1 340 x 420 mm	165 kg
NS3-57-180	630 kW	500 kW		
NS3-57-230	900 kW	630 kW		

690 V Models

Novadem Ref.	Max motor power 3 phase 690 V		Dimensions W x H x D	Weight
	3 x FLC	4 x FLC		
NS3-63-250 NS3-63-300	110 kW 150 kW	75 kW 110 kW	Size 3 200 x 470 x 265 mm	16 kg
NS3-64-300 NS3-64-500	220 kW 300 kW	160 kW 200 kW	Size 4 454 x 685 x 285 mm	44 kg
NS3-65-760 NS3-65-120	375 kW 500 kW	280 kW 375 kW	Size 5 454 x 685 x 285 mm	49 kg
NS3-66-120	560 kW	400 kW	Size 6 640 x 715 x 390 mm	85 kg
NS3-67-120 NS3-67-180 NS3-67-230	700 kW 900 kW 1 200 kW	500 kW 670 kW 900 kW	Size 7 530 x 1 340 x 420 mm	165 kg

Starting
Voltage ramp or constant current, with or without a torque boost. Starting current adjustable between 1 and 5 times the full load current of the motor. Starting time adjustable between 1 and 220 seconds.

Stopping
Freewheel stop, decelerating, controlled stop for pumps, brake stop or emergency stop. Stopping time adjustable between 1 and 220 seconds.

Other functions
Energy saving, restart on the fly, automatic restart function, motor drying function, contra-rotation starting, two-speed motors and cascade starting (4 different motors), forced start, auto-test, locked rotor detection, delta-coupled starting, variable speed function (special motors)....

Operating conditions
Ambient temperature: - 10 to + 40°C, up to + 55°C with derating.
Humidity < 90% without condensation.

Cooling: natural ventilation on models size 1, forced ventilation on all others.

Power supply
230 V (- 20%/+ 15%), 50 and 60 Hz
400 V (- 20%/+ 15%), 50 and 60 Hz
500 V (- 20%/+ 15%), 50 and 60 Hz
690 V (- 20%/+ 15%), 50 and 60 Hz.

Control supply
230 V (+ 10%/- 15%), 50 and 60 Hz.
115 V (+ 10%/- 15%), 50 and 60 Hz or
48 V- according to range.

options

- Multi-Option card offering an additional isolated analogue output 4-20 mA, 2 opto-isolated programmable inputs and 2 programmable relay outputs.

- Remote display with 2 lines of 20 alpha-numerical characters, a fault signal and drive healthy signal.

- Network interface Modbus card.

- Software provides graphical supervision of the starter diagnostics and allows complete control of the starter by PC.

ordering instructions

NOVADEM S3 starter NS3-XX-XXX
(Please refer to the appropriate tables and please specify the required control supply voltage)

Options
Multi-Option card OPT-MUL
Remote display OPT-DEP3
Remote display and keypad OPT-CAD3
Software OPT-LGD
Network Interface Card MDB-NS



Headquarter: AOIP
AOIP
B.P. 182
F 91006 EVRY Cedex
Tel. 33 1 69 36 50 60
Fax 33 1 60 77 82 97
Email: export@aoip.com

AOIP
10 LANESFIELD DRIVE
SPRING ROAD INDUSTRIAL ESTATE
ETTINGSHALL, WOLVERHAMPTON
WEST MIDLANDS WV4 6UA
Tel. 01 902 494495 - Fax 01 902 494607
Email: aoip@lineone.net

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