



SM3300 - Interface modules

Models	Description
INT MOD ANA	Isolated analog interface
INT MOD SER	Multi-protocol serial interface
INT MOD DIG	Digital I/O interface
INT MOD CON	Isolated contacts interface

General Features

- Plug and play for the SM3300 series power supplies
- Multiple interfaces possible per power supply
- Isolated from the output voltage
Working voltage 1000V
- Floating with respect to earth

Features INT MOD ANA

Analog controller interface

- High accuracy, low drift
- 16 bit AD and DA conversion
- Compatible with other Delta Elektronika 15p analog interfaces
- Factory calibrated for optimum accuracy

Features INT MOD DIG

Digital (user) I/O

- 8 inputs Logic high = 2.5 ... 30V, Logic low = 0V
- 8 Open Drain outputs 0 - 30V, max. 200mA
- Programmable via Ethernet or sequences

Features INT MOD CON

Isolated contacts

- 4 relays with make-and-break contacts
- Additional (floating) Interlock with 24V enable system
- Programmable via Ethernet

Features INT MOD SER

Serial controller interface

- Multi protocol RS232, RS485, RS422, USB
- Web based configuration
- Speeds up to 115.2 kbps

Isolated Analog Controller interface

Typical Applications

- Analog programming of voltage and current
- Remote monitoring of the status signals: OverTemp, Limit, PowerSink OverLoad
- Analog monitoring of voltage and current
- Remote Shut down of the power output using a 5V signal

Specifications

Analog Programming		CV	CC
Programming inputs			
input range		0 - 5 V	0 - 5 V
accuracy		$\pm 0.2\%$	$\pm 0.2\%$
offset		- 1 ... +1 mV (on 5V)	- 1 ... +1 mV (on 5V)
temp. coeff. offset		10 $\mu\text{V} / ^\circ\text{C}$	10 $\mu\text{V} / ^\circ\text{C}$
input impedance		10 MOhm	10 MOhm
Monitoring output			
output range		0 - 5 V	- 5 V to + 5 V
accuracy		$\pm 0.2\%$	$\pm 0.2\%$
offset		- 1... 1 mV (on 5V)	- 1... 1 mV (on 5V)
temp. coeff. offset		3 $\mu\text{V} / ^\circ\text{C}$	60 $\mu\text{V} / ^\circ\text{C}$
output impedance		2 Ohm / max. 4 mA	2 Ohm / max. 4 mA
Reference voltage on prog. connector		5.114 V $\pm$ 15 mV (Ro = 2 Ohm, max. 4 mA) 20 ppm	
+12 V output on prog. Connector		12 V $\pm$ 0.2 V 0.2 A 5 Ohm	
Status outputs			
CC - status		5 V = logic 1 (Ro = 500 Ohm)	
LIM - status		5 V = logic 1 (Ro = 500 Ohm)	
OT - status		5 V = logic 1 (Ro = 500 Ohm)	
PSOL - status		5 V = logic 1 (Ro = 500 Ohm)	
ACF - status		5 V = logic 1 (Ro = 500 Ohm)	
DCF - status		5 V = logic 1 (Ro = 500 Ohm)	
DC - Fail ²⁾		5 V = logic 1 (Ro = 500 Ohm)	²⁾ output voltage $\pm 5\%$ beyond set point
Remote ShutDown		with + 5V, 1 mA or relay contact	
Insulation prog. connector - internal circuits prog. connector - earth		1000 VDC Reinforced isolation acc. EN60950-1 / EN61010-1 max. 60VDC	
Safety		EN 60950 / EN 61010	
Operating Temperature		- 20 to + 50 $^\circ\text{C}$	
Humidity		max. 95% RH, non condensing, up to 40 $^\circ\text{C}$ max. 75% RH, non condensing, up to 50 $^\circ\text{C}$	
Storage temperature		- 40 to + 85 $^\circ\text{C}$	
Mounting		Pluggable, SM3300 interface slots 2, 3, 4. See paragraph 'Hardware Installation' in this manual. Note1: cannot be plugged in slot1 Note2: max 1pcs MOD INT ANA per unit.	
Programming connector		15 pole D-connector (female)	
Weight		0.14 kg	



Serial interface (multi-protocol)

Typical Applications

- RS232 Programming
 - Balanced RS422 Programming
- USB Programming
 - Balanced RS485 Bi-directional Programming

Specifications

Communication speeds (bps)	2400, 4800, 9600, 19200, 38400, 57600, 115200
Insulation prog. connectors - internal circuits prog. connectors - earth	1000 VDC Reinforced isolation acc. EN60950-1 / EN61010-1 max. 60VDC
Safety	EN 60950 / EN 61010
Operating Temperature	– 20 to + 50 °C
Humidity	max. 95% RH, non condensing, up to 40 °C max. 75% RH, non condensing, up to 50 °C
Storage temperature	– 40 to + 85 °C

Mounting	Pluggable, SM3300 interface slots 1, 2, 3 and 4. See paragraph 'Hardware Installation' in this manual. Maximum 4 per unit.
Programming connector	RS422 & RS485 wires via push wire or so-called push in connector (contra header supplied) RS232 via 9 pole D-connector (female), USB socket type B.



Digital User I/O

Typical Applications

- Hardware triggering of sequences
 - Interaction with other equipment
- Stand-alone automation
 - Safety or Alarm indications

Specifications

Logic inputs 1... 8 Input range Input impedance Load current +5V	2 - 30V Rin = 22kOhm 100mA
Logic outputs 1 ... 8 Output type Output impedance	Open Drain (True = 0V, False = open) 7 Ohm (max 30V/200mA)
Insulation prog. connectors - internal circuits prog. connectors - earth	1000 VDC Reinforced isolation acc. EN60950-1 / EN61010-1 max. 60VDC
Safety	EN 60950 / EN 61010
Operating Temperature	- 20 to + 50 °C
Humidity	max. 95% RH, non condensing, up to 40 °C max. 75% RH, non condensing, up to 50 °C
Storage temperature	- 40 to + 85 °C
Mounting	Pluggable, SM3300 interface slots 1, 2, 3 and 4. See paragraph 'Hardware Installation' in this manual. Maximum 4 per unit.
Programming connector	User Outputs via 15 pole D-connector High Density (female), User Inputs via 15 pole D-connector High Density (female).
Weight	0.14 kg



Isolated Contacts

Typical Applications

- Trigger an external safety alarm
- Interact in automated processes
- Switch the output On/Off with a remote 24Vdc signal
- Using a floating signal for triggering the Interlock function

Specifications

Relay contacts 1... 4 Contact voltage Contact current Maximum switching capacity	60 V 2 A 60 W
Floating Interlock Open circuit voltage	5 V
Floating Enable Nominal input voltage Input voltage range Input impedance	24VDC 15 - 30VDC 12kOhm

Insulation prog. connectors - internal circuits prog. connectors - earth	1000 VDC Reinforced isolation acc. EN60950-1 / EN61010-1 max. 60VDC
Safety	EN 60950 / EN 61010
Operating Temperature	- 20 to + 50 °C
Humidity	max. 95% RH, non condensing, up to 40 °C max. 75% RH, non condensing, up to 50 °C
Storage temperature	- 40 to + 85 °C

Mounting	Pluggable, SM3300 interface slots 1, 2, 3 and 4. See paragraph 'Hardware Installation' in this manual. Maximum 4 per unit.
Programming connector	Relay 1 & 2, via a 6 pole push wire or so-called push in connector. Relay 3 & 4, via a 6 pole push wire / push in connector. Interlock and Enable via a 3 pole push wire / push in connector. For all 3 connectors there's a contra header supplied.
Weight	0.14 kg

