DELTA ELEKTRONIKA B.V.
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Card for inserting in power supply

External Module

ISO AMP - Four channel analog isolation amplifier

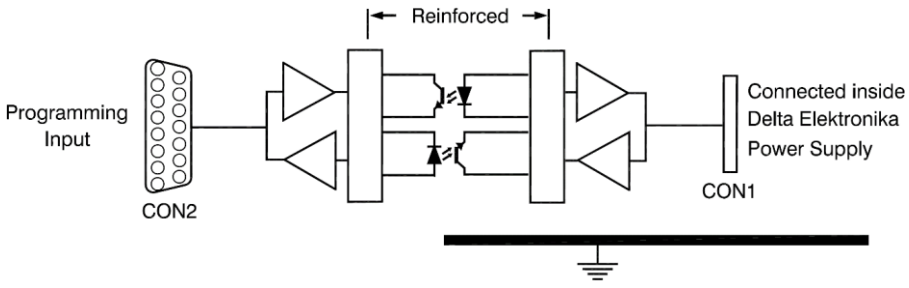
Features

- Selectable 0-5 V and 0-10 V signal levels
- Isolated programming and monitoring of U, I and status signals
- Prevents problems with earth loops and CM-voltages
- Pin compatible with ES-series, SM800, SM1500 and SM6000
- Factory installed
- Negative current programming and monitoring in case of optional power sink

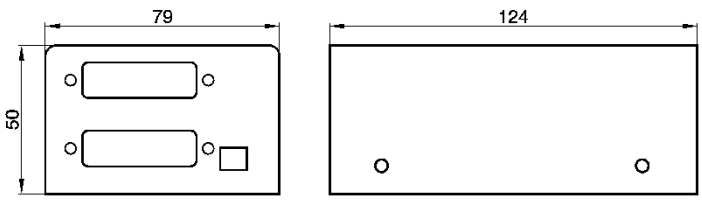
Specifications

- Programming and monitoring offset : +/- 60 µV typical
- Full scale error : 0.1% calibrated (10% for negative signals)
- Non-linearity : 0.01% typical, TC = 65ppm/°C
- Common mode rejection : 80 dB @ 50 Hz

Block diagram



Dimensions External Module



Specifications

CON 1 - internal circuitry : To plug the card inside the power supply (20P header connector)
CON 2 - external connections : To connect the card to a programming source (15P female D-connector)

Analog inputs / outputs: CV, CC programming and CV, CC monitoring

Offset		: ±60 µV typical, ±180 µV max.
Full scale error		: 0.1% calibrated.
Non-linearity		: 0.01% typical, 0.05 % max.
Temperature coefficient		: -65ppm typical
Common mode rejection		: 80 dB @ 50 Hz
Voltage rage :	CON 1	: 0 - 5 V
	CON 2	: 0 - 5 V or 0 - 10 V selectable
Input impedance	CON 1	: 200 kΩ
	CON 2	: 200 kΩ for 5 V input, 400 kΩ for 10 V input.
Output impedance	CON 1	: 100 Ω / max. 4 mA
	CON 2	: 1 Ω / max. 4 mA
Reference voltage		: 5.114 V ±15 mV (Ro = 10 Ω / max. 4 mA), TC = 20 ppm/°C
Auxiliary supply voltage		: 11.4 - 12.7 V / Ri = 470 Ω

Digital status outputs : CV, LIM, OT, ACF, DCF

Output voltage	CON 2	: + 5 V / max. 2 mA
Output impedance	CON 2	: 5 Ω

Digital input : Remote shutdown

Input voltage	CON 2	: 3 - 15 V
Input impedance	CON 2	: 1.8 kΩ

General

Temperature:	Operating temperature –20 to +50 °C, Storage temperature –40 to +85 °C.
Humidity:	Max. 95% RH, non condensing, up to 40 °C, max. 75% RH, non condensing, up to 50 °C.
Insulation:	CON2 - CON1, 1000 VDC Reinforced insulation acc. IEC60950-1 / EN61010-1
	CON2 - Case, 1000 VDC Basic insulation
Insulation test voltages	4250 VDC
Capacitance input / case	3.2nF

External ISO AMP MODULE

Enclosure

Dimensions (h x w x d) = 50 x 79 x 124 mm
Weight 0.5 kg
Degree of protection: IP20

Insulation

Analog in- and outputs to case: 1000 VDC
Logic in- and outputs to case: 1000 VDC
Line input to case: n.a.

Input Power

Rated voltage 24 VDC. Wide range 15 - 30 VDC
Power consumption 3 W
Uses 2pole terminal block for DC input power.
Uses 15P male & female connectors for prog. signals.

EMC

Emission : EN 61000-6-3, residential, light industrial environment
EN 55022**B**
Immunity : EN 61000-6-2, industrial environment

Accessories

The following is supplied with the ISO AMP MODULE:
Rail adapter for 35mm rail mounting, Wall mounting adapter (7.5 * 8cm) and 60cm cable with 15 pole D-connectors.

Note1:
The four analog channels are factory-calibrated within 0.1 % for 5 V input and output voltages. Selecting a 10 V input and/or output without re-calibrating can introduce an extra full scale error of 0.1 %. Offset, full scale error, non-linearity and temperature coefficient have to be added to the specifications of the power supply.

Note2:
Specifications are measured at an ambient temperature of 25 °C ± 5 °C unless otherwise noted.

Ordering Information

Models	Order Code
SM800 with built-in card	Option P249
SM1500 with built-in card	Option P218
SM6000 with built-in card	Option P154
External Module	ISO AMP Module