



Card for inserting in power supply



External Module



## ISO AMP - Four channel analog isolation amplifier

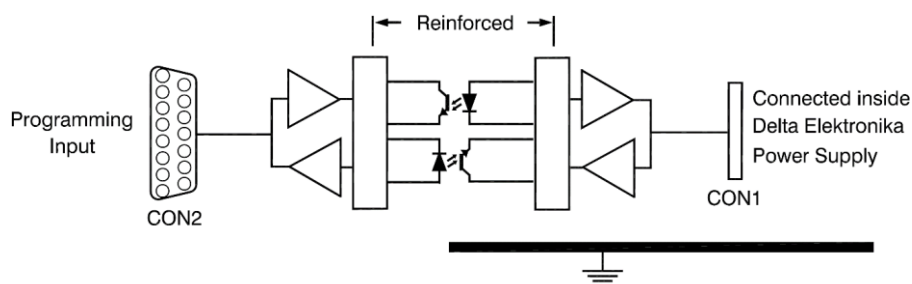
### Features

- 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

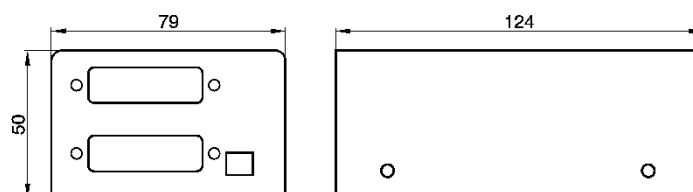
### Specifications

- Programming and monitoring offset : +/- 60  $\mu$ V typical
- Full scale error : 0.1% calibrated (10% for negative signals)
- Non-linearity : 0.01% typical, TC = 65ppm/ $^{\circ}$ 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		: $\pm 60 \mu\text{V}$ typical, $\pm 180 \mu\text{V}$ 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 range :	CON 1	: 0 - 5 V
	CON 2	: 0 - 5 V or 0 - 10 V selectable
Input impedance	CON 1	: 200 k $\Omega$
	CON 2	: 200 k $\Omega$ for 5 V input, 400 k $\Omega$ for 10 V input.
Output impedance	CON 1	: 100 $\Omega$ / max. 4 mA
	CON 2	: 1 $\Omega$ / max. 4 mA
Reference voltage		: 5.114 V $\pm 15$ mV (Ro = 10 $\Omega$ / max. 4 mA), TC = 20 ppm/ $^{\circ}\text{C}$
Auxiliary supply voltage		: 11.4 - 12.7 V / Ri = 470 $\Omega$

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

Output voltage	CON 2	: + 5 V / max. 2 mA
Output impedance	CON 2	: 5 $\Omega$

### Digital input : Remote shutdown

Input voltage	CON 2	: 3 - 15 V
Input impedance	CON 2	: 1.8 k $\Omega$

## General

Temperature:	Operating temperature $-20$ to $+50$ $^{\circ}\text{C}$ , Storage temperature $-40$ to $+85$ $^{\circ}\text{C}$ .
Humidity:	Max. 95% RH, non condensing, up to $40$ $^{\circ}\text{C}$ , max. 75% RH, non condensing, up to $50$ $^{\circ}\text{C}$ .
Insulation:	CON2 - CON1, 1000 VDC Reinforced insulation acc. IEC60950-1 / EN61010-1 CON2 - Case, 60 VDC Functional insulation
Insulation test voltage	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: 60 VDC  
Logic in- and outputs to case: 60 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 61326-1, class B equipment (for use in domestic establishments)  
Immunity : EN 61326-1, equipment for use in industrial and domestic establishments

### 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  $25$   $^{\circ}\text{C} \pm 5$   $^{\circ}\text{C}$  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