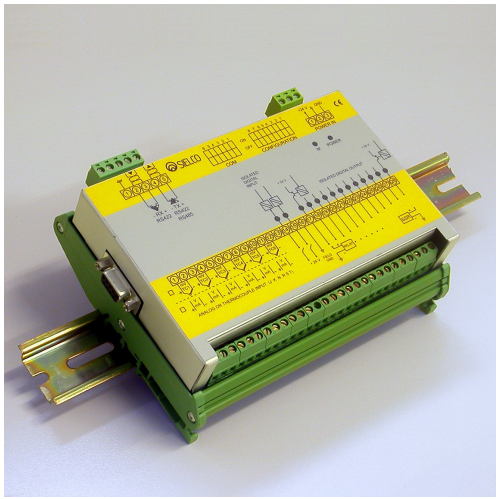

D1-60A-V

Indicator for 6 analog inputs (0-5 V) with 12 alarm outputs

The D1-60A-V is a module suited for DIN rail mounting that can be linked to a local operator panel (F1-10); it provides 6 input channels for reading 0-5 V signals; the double ramp conversion circuit ensures a reliable reading with a 16 bit resolution and a 0.05 % full scale accuracy; the module does not require calibration and mantains its characteristics of accuracy; analog inputs, power section and communication interface are optically isolated; 12 optically isolated digital outputs can be configured as alarm units with/without hysteresis; an internal watch-dog circuit ensures a non-stop operation; a RS422/485 serial interface with Modbus (ASCII or RTU) protocol is also available.

GENERAL SPECIFICATIONS

Power supply	From 9 to 36 Vdc, 100 mA @ 24 Vdc (without F1-10), 170 mA (with)
Power supply protections	Against surge, voltage peaks and polarity inversion
Operating environment	Temperature: from 0 to 70 °C, relative humidity: from 25 to 85 % (non condensing)
Operating atmosphere	Without corrosive gas
Storage temperature	From -20 to 80 °C (without ice)
Electromagnetic compatibility □	• Radio frequency emissions: EN55011 Group 1 Class A • Conducted emissions: EN55011 Group 1 Class A • Radio frequency immunity: ENV50140 10 V/m AM from 80 to 1000 MHz • Conducted immunity: ENV50141 10V/m AM from 0.15 to 80 MHz
IP grade	Connectors: IP20, enclosure: IP20
Insulation	• Between analog inputs and digital inputs/outputs: 500 V • Between analog inputs and power supply section: 500 V • Between analog inputs and 485/422 section: 1000 V • Between digital inputs/outputs and 485/422 section: 1500 V • Between power supply and 485/422 sections: 1500 V
Signalling leds	Power on, self-test, digital inputs and outputs status, serial tx, serial rx
Mounting mode	DIN EN50022 rail
Dimensions	175L x 120H x 65P mm
Weight	450 g
Ordering code	D1-60A-V

ANALOG INPUTS SPECIFICATIONS

Sensor type	6 voltage sensors (from 0 to 5 V)
Analog/digital conversion	Double ramp, 16 bit resolution
Voltage allowed	From -1 to 6 V
Input impedance	20 kΩ
Overall accuracy	±5 mV
Acquisition rate	1 s (all the six channels)

DIGITAL INPUTS SPECIFICATIONS

Input type	2 inputs, optoisolated, common positive (power supply voltage)
Voltage levels	Active state: from 15 to 36 V, non active state: from 0 to 4 V
Current sinked	10 mA @ 24 V
Detectable pulse duration	Not less than 500 ms

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DIGITAL OUTPUTS SPECIFICATIONS

Output type	12 outputs PNP transistor open collector, pull-down resistor: 22 kΩ to ground
Output voltage when active	The voltage supply
Maximum load current	100 mA each output
Protections	Suppression diode, overvoltages and short circuit

COMMUNICATION INTERFACE SPECIFICATIONS

Communication interface	EIA RS485 or RS422 (selectable by dip-switches)
Communication speed	9600 or 19200 baud (selectable by dip-switches)
Communication protocol	Modbus ASCII or Modbus RTU (selectable by dip-switches)
Device address	From 1 to 63 (selectable by dip-switches)
485/422 lines protections	Against surge, short circuits and voltage peaks
Pull-up and pull-down resistors	10 kΩ

FUNCTIONAL SPECIFICATIONS

Watch-dog	Hardware
Read software filter	Moving average, 8 samples depth (individually selectable for each channel)
Input linearization	Individually configurable for each channel
Intercepting mode	Levels mode or hysteresis mode with programmable levels
Input / output links	Individually configurable
Retaining alarms	Individually selectable
Retaining alarms reset mode	All alarms reset by using one of the digital inputs, individually reset by using F1-10 operator panel
Outputs	With activation and deactivation time filters

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