

GENERAL

Standard	EN61010-1 EN61010-2-201 EN61131-2
Dimensions (W × H × D)	36x90x60mm
Weight	145g
Mounting	Top hat rail EN50022, 35mm

ENVIRONMENTAL CONDITIONS

Operating ambient temperature	0°C – 55°C
Relative humidity – non-condensing	80 % for temp. up to 31 °C, decreasing linearly to 50 % relative humidity at 55 °C
Pollution Degree	PD2
Altitude	up to 2000m AMSL
Vibration (5 ≤ f ≤ 9 Hz)	1,75 mm amplitude sinus 3,5 mm amplitude random
Vibration (9 ≤ f ≤ 150 Hz)	0,5 g acceleration sinus 1,0 g acceleration random
Transport and Storage	-20°C – +70°C 10 to 90% no condensation Altitude 3000m AMSL
Shock response	15g, 11ms half sinus all 3 axes

I/O

Supply voltage	12V or 24V
USB (Power for programming only)	USB-B, 2.0
Inputs, no galvanic insulation	8
Common analog/digital	4
Fixed digital	2
Fixed analog	2
Digital Outputs, no galvanic insulation	8
Relay Outputs (parallel to Digital, galvanic ins.)	6
PIN Header, no Galvanic insulation	
Logic level I/Os	22, partially parallel to terminal I/Os
Analog 0-5V Inputs	5
Communication	SPI (switchable), UART, Reset
Internal Power	+3,3V, +5V, GND

TERMINAL CAPACITIES

Relay Output, Power Input	2,5mm ² (24-12AWG)
Strip length	6-7mm
Max. tightening torque	0,5Nm
Digital, Analog Input Output	1,5mm ² (30-16AWG)
Strip length	5-6mm
Max. tightening torque	0,2Nm
Pin header connector	26 Pin, Dual row, 2.54 pitch

PROTECTION

ESD HBM Class 0	Contact discharge: ±4kV Air discharge: ±8kV
Supply input over current protection	Internal Fuse 8A
Relay Output	External Fuse required
Digital Output	Overload, short circuit, ESD
Signal Input	Overvoltage, ESD
Pin header connector	ESD
Current +5V, +3,3V	total 200mA, resettable fuse

ELECTRICAL CHARACTERISTICS

	Condition	Value
Supply voltage	12V range	10,2V – 15,0V
	24V range	20,4V – 30,0V
Signal input low level	12V range	0V – 3,6V
	24V range	0V – 7,2V
Signal input high level	12V range	9V – 13,2V
	24V range	18V – 26,4V
Analog signal input	12V range	0 – 13,2V
	24V range	0 – 26,4V
Signal input current	max. current	< 3mA
Logic “0” level	@ pin header	0V – 1,5V
Logic “1” level	@ pin header	3V – 5,5V
Signal output low level	12V range	0V – 2,4V
	24V range	0V – 4,8V
Signal output high level		V _{in} – 10%
Signal output – PWM functionality	Duty cycle	5% - 95%
Relay output, Contact rating	Resistive Load	6A 250V AC / 30V DC
Common Relay terminal	max. current	6A
Galvanic insulation	coil to contact	3000VAC 1min
Relay ON in case of PWM functionality	Duty cycle	> 30%

LED SIGNALIZATION

Power LEDs coding	Color of power LED
only USB powered	12V green, 24V green
input voltage out of range	12V orange, 24V orange
input voltage 10.2V – 15.0V	12V green, 24V orange
input voltage 20.4V – 30.0V	12V orange, 24V green
input voltage < 7V	both LEDs off
Device in reset state	Reset LED yellow
Device in run state	Reset LED off
Signal input at high (logic 1) level	Corresponding LED green
Signal input at low (logic 0) level	Corresponding LED off
Signal input in use as analog input	Corresponding LED green on when input level reach high (logic 1) state
Signal/Relay output set to active	Corresponding LED green
Signal/Relay output set to inactive	Corresponding LED off

PHYSICAL DIMENSIONS

