Intelligent safety electronic

acc. to DIN EN ISO 13849-1

Description

The ELMS system is a multifunctional, modular upgradeable, configurable safety system and meets the requirements up to SIL 3/PL e. The electronic is used for danger prevention on hoists. It protects both the operator and the equipment itself. The system consists of a central module on which modules can be attached to add more functions.

The modules are connected by a redundant standart top hat rail bus. The electronic includes a wide range of safety digital and analogue inputs, secure semiconductor- as well as contact outputs. The status of the in- and outputs, supply voltage and other diagnostic tasks is displayed on an LED matrix.

Features

- 8 x safety analogue_in 4…20mA
- 8 x safety dig_input
- 2 x safety relay
- 6 x safety positive-switching (high side) the high side outputs come with an overload and short circuit protection
- 1 x USB interface for data transfer
- Expansion connector for additional modules
- For installation in electrical cabinet with > IP 54
- Safety functions acc. to DIN EN 13849-1:2008-12 (Cat. 4, PL e)
- Optional available with Profi Bus, Can-Bus, Ethernet

Applications

- Harbour cranes (RTG, STS)
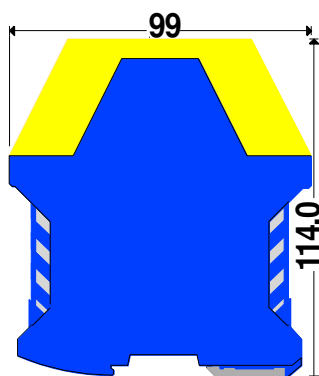- Ship- and Offshore cranes
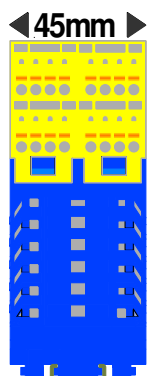- Hoisting devices

Model: ELMS1

Technical data

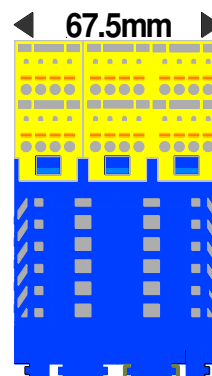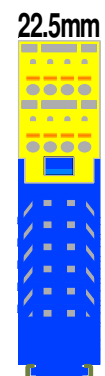| Model	ELMS1
Operating voltage U_B on A1 and A2 on central module	24V DC for all module, tolerance -15% + 10%
Ripple U_B	max. 10 %
Input current at A1 of the central modules	≤ 4A / internal fuse: 6A
Operating temperature	-10 … +60°C
Storage temperature	-40 … +85°C
Vibration resistance 3 axis	Sinus 10–55Hz, 0.35mm, 10 cycles, 1 octave /min
Max. cable cross section	0.2 upt to 1.5mm^2 (AWG24-16)
Housing material	Polyamide PA unreinforced
Protection type	Housing and clamps: IP20, on-site: minimal IP 54
Voltage at the inputs	24V DC –15%, + 10%
Input current consumption	maximal 4.0mA
ELMS1 (other module)	with Profi Bus, Can-Bus, Ethernet

Dimensions (in mm)

Width and height	Central module	Central module upgradeable	Others
99 / 114.0	45mm	67.5mm	22.5mm

Subject of technical changes