



Safety relay, 24 V DC, 14DI, 4DO relays, easyNet

Part no. ES4P-221-DRXX1  
 Catalog No. 111018

EL-Nummer (Norway) 0004521513

### Delivery program

Product range			Control relays for safety applications
Basic function			easy800 with safety function blocks
<b>Features</b>			
Safety functions			Stopping in the event of an emergency Protective door OSSD input ESPE with muting function Two-hand control Highest speed monitoring Zero speed monitoring Safety timing relay Mode selection Enabling switch Feedback circuit
Display & keypad			-
Mounting width		mm	107.5
Technical safety parameters:			
Values according to EN ISO 13849-1			
Performance level		according to EN ISO 13849-1	PL e
Category		according to EN ISO 13849-1	Kat. 4
Safety integrity level claim limit		in accordance with 62061	SILCL 3
Probability of failure per hour		PFH <sub>d</sub> x 10 <sup>-10</sup>	4.26
Safety integrity level		In accordance with IEC 61508	SIL 3
Real time clock			#
Supply voltage	U <sub>s</sub>		24 V DC
Networking			easyNet/easyLink
Safety/standard circuit diagram			✓/✓
<b>Instructions</b>			
Expandable: standard inputs/outputs and standard bus systems			
individual laser inscription with ES4-COMBINATION possible →#2011790			
Inputs (safety)			14
<b>Outputs (safety)</b>			
6 A relay			4
Test signal			4

### Technical data

<b>General</b>			
Standards			EN ISO 13849-1 EN 50156-1, EN 50156-2 EN 50178 EN 50581_x EN 61000-6-2 EN 61000-6-3 IEC 61508 IEC 62061
Approvals			
Approvals			EAC
Dimensions (W x H x D)		mm	107.5 (6 TE) x 90 x 72
Weight		kg	0.38

Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories)
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## Times

Inputs			
Max. duration of external test pulse		ms	1
Semi-conductor output			
Off test pulse		ms	< 1
Off-delay		ms	< 1

## Terminal capacities

Solid		mm <sup>2</sup>	0.2/4 (AWG 22 - 12)
Flexible with ferrule		mm <sup>2</sup>	0.2/2.5 (AWG 22 - 12)
Standard screwdriver		mm	0.8 x 3.5
Max. tightening torque		Nm	0.6

## Climatic environmental conditions

Operating ambient temperature		°C	-25 to + 55 cold as per IEC 60068-2-1 heat as per IEC 60068-2-2 Damp heat – constant to IEC 60068-2-78 – cyclical to ICE 60068-2-30
Condensation			Take appropriate measures to prevent condensation
Ambient temperature			
Storage	θ	°C	-40 - +70
relative humidity		%	5 - 95 in accordance with IEC 60068-2-30, IEC 60068-2-78 Non-condensing
Air pressure (operation)		hPa	795 - 1080

## Ambient conditions, mechanical

Degree of protection			IP20 (IEC/EN 60529, EN50178, VBG 4)
Constant amplitude 0.15 mm		Hz	
constant amplitude		Hz	10 - 57 (0.15 mm)
constant acceleration		Hz	57 - 150 (2g)
Vibrations	3,5 mm / 1 g	Hz	In accordance with IEC 60068-2-6
Mechanical shock resistance		g	18 shocks Sinusoidal 15 g/11 ms according to IEC 60068-2-27
Drop to	Drop height	mm	50 (IEC/EN 60068-2-31)
Free fall, packaged		m	0,3 (IEC/EN 61131-2)

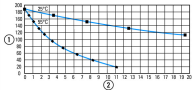
## Electromagnetic compatibility (EMC)

Electromagnetic compatibility			As per ICE 62061, increased EMC requirements for safety-relevant functions
Overvoltage category/pollution degree			III/2
Electrostatic discharge (ESD)			
applied standard			according to IEC EN 61000-4-2
Air discharge		kV	15
Contact discharge		kV	8
Electromagnetic fields (RFI)		V/m	30 to IEC EN 61000-4-3
Radio interference suppression			EN 55011 Class B, EN 55022 Class B
Burst		kV	according to IEC/EN 61000-4-4 Supply cables: 4 Signal cables: 4
power pulses (Surge)			2 kV (supply cables, symmetrical) 4 kV (semi-conductor outputs, symmetrical) In accordance with IEC 62061
Immunity to line-conducted interference		V	20, in accordance with IEC/EN 61000-4-6

## Insulation resistance

Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142, EN 60664-1:2003
Insulation resistance			EN 50178

## Back-up of real-time clock

Back-up of real-time clock			
			① Backup time (hours) with fully charged double layer capacitor