DATASHEET - EASY-E4-DC-16TE1P



 $\mbox{I/O}$ expansion, For use with easy E4, 24 V DC, Inputs/Outputs expansion (number) digital: 8, Push-In



Part no. EASY-E4-DC-16TE1P 197513

Product name	Eaton Moeller® series EASY I/O expansion
Part no.	EASY-E4-DC-16TE1P
EAN	4015081940912
Product Length/Depth	58 millimetre
Product height	90 millimetre
Product width	72 millimetre
Product weight	0.2 kilogram
Compliances	CE
Certifications	UL Category Control No.: NRAQ, NRAQ7 CE EN 50178 UL File No.: E205091 IEC 60068-2-27 IEC/EN 61000-4-2 IEC/EN 61000-6-3 DNV GL IEC 60068-2-6 IEC 60068-2-6 IEC 60068-2-30 UL Listed IEC/EN 61131-2 IEC/EN 61000-6-2 EN 61010 UL hazardous location division 2 UL hazardous location group B (hydrogen) UL hazardous location group C (ethylene) UL hazardous location group A (acetylene) UL hazardous location group D (propane)
Product Tradename	EASY
Product Type	I/O expansion
Product Sub Type	None
eatures & Functions	
Features	Parallel connection of transistor outputs with resistive load, inductive load with external suppressor circuit, combination within a group - Group 2 Q5 to Q8 Parallel connection of transistor outputs with resistive load, inductive load with external suppressor circuit, combination within a group - Group 1 Q1 to Q4
Functions	Thermal cutout
General information	
Degree of protection	IP20
Insulation resistance	According to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-2
Mounting method	Rail mounting possible
Operating frequency	Dependent on the cycle time of the basic device
Overvoltage category	III
Pollution degree	2
Product category	Control relays easyE4
Protocol	MODBUS
Residual current	0.1 mA (on signal "1" per channel)
Residual ripple	5 % (transistor outputs) ≤ 5 %
Software	EASYSOFT-SWLIC/easySoft7
Туре	easyE4 extension
Used with	easyE4
Voltage type	DC
Ambient conditions, mechanical	
Drop and topple	50 mm Drop height, Drop to IEC/EN 60068-2-31
	0.3 m

Mounting position	Horizontal Vertical
Shock resistance	15 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 11 ms, 18 Impacts
Vibration resistance	57 - 150 Hz, 2 g constant acceleration 10 - 57 Hz, 0.15 mm constant amplitude According to IEC/EN 60068-2-6
Climatic environmental conditions	
Air pressure	795 - 1080 hPa (operation)
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	55 °C
Ambient storage temperature - min	-40 °C
Ambient storage temperature - max	70 °C
Environmental conditions	Condensation: prevent with appropriate measures Clearance in air and creepage distances according to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201
Relative humidity	5 - 95 % (IEC 60068-2-30, IEC 60068-2-78)
Electro magnetic compatibility	
Air discharge	8 kV
Burst impulse	2 kV, Signal cable 2 kV, Supply cable According to IEC/EN 61000-4-4
Contact discharge	6 kV
Electromagnetic fields	1 V/m at 2 - 2.7 GHz (according to IEC EN 61000-4-3) 10 V/m at 0.08 - 1.0 GHz (according to IEC EN 61000-4-3) 3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3)
Immunity to line-conducted interference	10 V (according to IEC/EN 61000-4-6)
Radio interference class	Class B (EN 61000-6-3)
Surge rating	0.5 kV, Supply cables, symmetrical, EASYDC, power pulses (Surge), EMC 1 kV, Supply cables, asymmetrical, power pulses (Surge), EMC According to IEC/EN 61000-4-5 Level 4
Voltage dips	≤ 10 ms, Bridging voltage dips
Terminal capacities	
Terminal capacity	0.2 - 2.5 mm ² (22 - 12 AWG), flexible with ferrule
Electrical rating	
Conventional thermal current ith of auxiliary contacts (1-pole, open)	0.5 A
Power consumption	1 W
Power loss	1 W
Rated operational current (le)	Max. 0.5 A at signal "1" DC per channel
Rated operational voltage	20.4 - 28.8 V DC 20.4 - 28.8 V DC (Transistor outputs) 24 V DC (-15 %/+ 20 % - power supply) 24 V DC (transistor outputs) 24 V DC (digital inputs)
Supply voltage at AC, 50 Hz - min	0 V AC
Supply voltage at AC, 50 Hz - max	0 V AC
Supply voltage at DC - min	20.4 V DC
Supply voltage at DC - max	28.8 V DC
Short-circuit rating	
Short-circuit current	13.6 A, Transistor outputs
Short-circuit protection	Yes, electronic (Q1 - Q4, Q5 - Q8), Transistor outputs
Short-circuit tripping current	$0.7 \le le \le 1.7$ per output, For Ra ≤ 10 m Ω , Depending on number of active channels and their load, Transistor outputs
Communication	
Connection type	Push in terminals
Cable	
Cable length	100 m, unscreened, Digital inputs 12 V DC 100 m, unscreened, Digital inputs 24 V AC
Input/Output	
Delay time	0.2 ms typ., Digital inputs 24 V DC (II - I8), Delay time from 1 to 0, Debounce OFF 20 ms, Digital Inputs 12 V DC, Delay time from 1 to 0, Debounce ON 0.1 ms typ., Digital inputs 24 V DC (II - I8), Delay time from 0 to 1, Debounce OFF 20 ms, Digital Inputs 12 V DC, Delay time from 0 to 1, Debounce ON

Number of injusts (analog)	Input current	40 mA
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10.3 Degree of protection of assemblies Meets the product standard's requirements. 10.4 Clearances and creepage distances Meets the product standard's requirements. 10.5 Protection against electric shock Does not apply, since the entire switchgear needs to be evaluated. 10.6 Incorporation of switching devices and components Does not apply, since the entire switchgear needs to be evaluated. 10.7 Internal electrical circuits and connections Is the panel builder's responsibility. 10.8 Connections for external conductors Is the panel builder's responsibility. 10.9.2 Power-frequency electric strength Is the panel builder's responsibility. 10.9.3 Impulse withstand voltage Is the panel builder's responsibility. 10.9.4 Testing of enclosures made of insulating material Is the panel builder is responsibility. 10.10 Temperature rise The panel builder is responsibile for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. 10.11 Short-circuit rating Is the panel builder's responsibility. 10.12 Electromagnetic compatibility 10.13 Mechanical function The device meets the requirements, provided the information in the instruction	10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
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10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Is the panel builder's responsibility. Is the panel builder's responsibility. The panel builder's responsibility. Is the panel builder's responsibility. Is the panel builder's responsibility. The device meets the requirements, provided the information in the instruction	10.3 Degree of protection of assemblies	Meets the product standard's requirements.
10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 1s the panel builder's responsibility. 10.8 Connections for external conductors 1s the panel builder's responsibility. 10.9.2 Power-frequency electric strength 1s the panel builder's responsibility. 1s the panel builder is responsibility. 1s the panel builder's responsibility.	10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Is the panel builder's responsibility. Is the panel builder is responsibility. Is the panel builder is responsibility. Is the panel builder is responsibility. Is the panel builder's responsibility.	10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
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10.12 Electromagnetic compatibility 10.13 Mechanical function Is the panel builder's responsibility. The device meets the requirements, provided the information in the instruction	10.10 Temperature rise	
10.13 Mechanical function The device meets the requirements, provided the information in the instruction	10.11 Short-circuit rating	Is the panel builder's responsibility.
	10.12 Electromagnetic compatibility	Is the panel builder's responsibility.
	10.13 Mechanical function	

Technical data ETIM 9.0

Programmable logic controllers PLC (EG000024) / Logic module (EC001417)				
Electric engineering, automation, process control engineering / Control, Process Con	trol System (PCS) / Pro	ogrammable logic control (SPS) / Logic module (ecl@ss13-27-24-22-16 [AKE539019])		
Supply voltage AC 50 Hz	V	0 - 0		
Supply voltage AC 60 Hz	V	0 - 0		
Supply voltage DC	V	20.4 - 28.8		
Voltage type (supply voltage)		DC		
Switching current	Α	0.5		
Power consumption	W	1		
Number of analogue inputs		0		
Number of analogue outputs		0		

Number of Belleting	
Number of digital inputs	8
Number of digital outputs	8
With relay output	No .
Number of HW-interfaces industrial Ethernet	0
Number of interfaces PROFINET	0
Number of HW-interfaces RS-232	0
Number of HW-interfaces RS-422	0
Number of HW-interfaces RS-485	0
Number of HW-interfaces serial TTY	0
Number of HW-interfaces USB	0
Number of HW-interfaces parallel	0
Number of HW-interfaces wireless	0
Number of HW-interfaces other	0
With optical interface	No
Supporting protocol for EtherCAT	No
Supporting protocol for TCP/IP	No
Supporting protocol for PROFIBUS	No
Supporting protocol for CAN	No
Supporting protocol for INTERBUS	No
Supporting protocol for ASI	No
Supporting protocol for KNX	No
Supporting protocol for Modbus	Yes
Supporting protocol for Data-Highway	No
Supporting protocol for DeviceNet	No
Supporting protocol for SUCONET	No
Supporting protocol for LON	No
Supporting protocol for PROFINET IO	No
Supporting protocol for PROFINET CBA	No
Supporting protocol for SERCOS	No
Supporting protocol for Foundation Fieldbus	No
Supporting protocol for EtherNet/IP	No
Supporting protocol for AS-Interface Safety at Work	No
Supporting protocol for DeviceNet Safety	No
Supporting protocol for INTERBUS-Safety	No
Supporting protocol for PROFIsafe	No
Supporting protocol for SafetyBUS p	No
Supporting protocol for other bus systems	No
Radio standard Bluetooth	No
Radio standard WLAN 802.11	No
Radio standard GPRS	No
Radio standard GSM	No
Radio standard UMTS	No
10 link master	No
Redundancy	No
With display	No
Degree of protection (IP)	IP20
Basic device	No
Expandable	No
Expansion device	No
With time switch clock	No
Rail mounting possible	Yes
Wall mounting/direct mounting	No
Front built-in possible	No
Rack-assembly possible	No
Suitable for safety functions	No

SIL according to IEC 61508		None
Performance level according to EN ISO 13849-1		None
Appendant operation agent (Ex ia)		No
Appendant operation agent (Ex ib)		No
Explosion safety category for gas		None
Explosion safety category for dust		None
Certified for UL hazardous location class I		Yes
Certified for UL hazardous location class II		No
Certified for UL hazardous location class III		No
Certified for UL hazardous location division 1		No
Certified for UL hazardous location division 2		Yes
Certified for UL hazardous location group A (acetylene)		Yes
Certified for UL hazardous location group B (hydrogen)		No
Certified for UL hazardous location group C (ethylene)		Yes
Certified for UL hazardous location group D (propane)		Yes
Certified for UL hazardous location group E (metal dusts)		No
Certified for UL hazardous location group F (carbonaceous dusts)		No
Certified for UL hazardous location group G (non-conductive dusts)		No
Width	mm	72
Height	mm	90
Depth	mm	58