easy control relay
MFD-Titan multi-function display

The control relays easy500/700/800 and the multifunction display MFD Titan offer all the technical possibilities needed to realize applications in industrial and manual applications as well as in machinery or apparatus construction.

easy500
Functions such as multifunction relays, current pulse switches, counters, analog value comparators, week and year time switches +++ Stand-alone device +++ Optimal for smaller applications +++ Connectable to Ethernet

easy700
Complete functional scope of an easy500 +++ Local and remote extension options for flexible applications +++ Connectable to current bus systems or Ethernet

easy800
Complete functional scope of an easy700 +++ Numerous additional functions such as PID controller, arithmetic functions, value scaling, fast counter (5 kHz) +++ To perform comprehensive control tasks +++ Digital and analog expandability +++ Integrated communication through easyNet +++ Connectable to current bus systems or Ethernet

MFD-Titan
Combines control function of an easy800 with convenient visualization +++ Display, control, regulation and communication with one device +++ E/A modules for direct temperature sensing +++ Digital and analog expandability +++ Communication through easyNet possible +++ Connectable to current bus systems or Ethernet



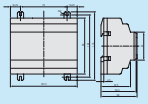






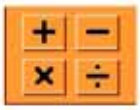




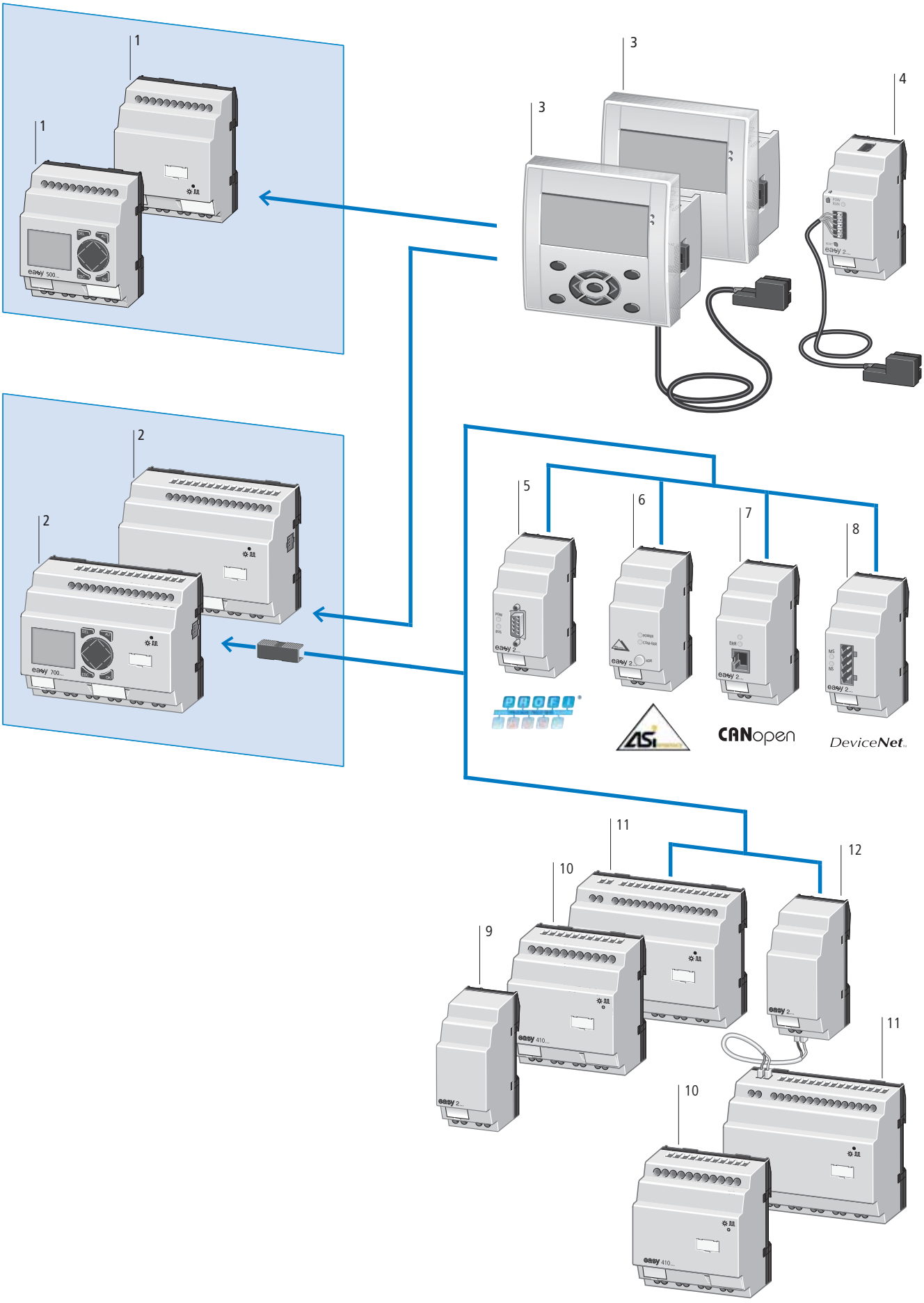


Notes

Technical overview

Functions		easy500/700	easy800	MFD-...CP8...
Counter functions 	Counter relay (up, down counting)	16 (0 to 32000)	32 ($\pm 2^{31}$)	32 ($\pm 2^{31}$)
	Frequency counters	2 (max. 1 kHz)	4 (max. 5 kHz)	4 (max. 3 kHz)
	High-Speed counter	2 (max. 1 kHz)	4 (max. 5 kHz)	4 (max. 3 kHz)
	Incremental counters	–	2 (max. 3 kHz)	2 (max. 3 kHz)
	Hour meter	4 (operating hours value is stored super-retentively (e.g also with program change)		
Time functions 	Weekly timer (4 channels per timer, each channel offers one On/Off time)	8	32	32
	Year time switch	8	32	
	Set cycle time	–	1	1
	Timing relay	16 (0.01 s … 99 h 59 min)	32 (0.005 s … 2^{32} min), On-delayed and/or off-delayed (optionally random switching), pulse shaping, flashing	
Program sequencing functions 	Jump	8	32	32
	Conditional jump	–	32	32
	Master reset	3	32	32
Maths functions 	Analog value comparator	16	32	32
	Arithmetic	–	32 (ADD, SUB, MUL, DIV)	32 (ADD, SUB, MUL, DIV)
	PID controller	–	32	32
	PT1 signal smoothing filter	–	32	32
	Value scaling	–	32	32
	Numerical converter	–	32	32
	Pulse output	–	2	–
	Pulse width modulation	–	2	2
	Value limit	–	32	32
Memory functions 	Block comparison	–	32	32
	Block transfer	–	32	32
	Boolean operation	–	32 (AND, OR, NOT)	32 (AND, OR, NOT)
	Comparator	16	32	32
	Data function block	–	32	32
	Data multiplexer	–	32	–
	Shift register	–	32	32
	Table function	–	32	32
Communication functions 	Get value from the NET	–	32	32
	Put value on the NET	–	32	32
	Bit output via NET	–	32	32
	Bit input via NET	–	32	32
	Diagnostic alarm	–	9	9
	Serial protocol	–	32	–
	Synchronize clock via NET	–	1	1
Text functions 	Text display (can be edited via software)	16 × (4 × 12 characters)	32 × (4 × 16 characters)	Yes
	Static text			Yes
	Message text			Yes
	Screen menu			Yes
	Running text			Yes
	Rolling text			Yes
Value entry functions 	Date and time information			Yes
	Year time switch entry			Yes
	Latching pushbutton			Yes
	Button field			Yes
	Timing relay value entry	Yes	Yes	Yes
	Value entry			Yes
	Week clock input			Yes
	Enter counter value/reference value/OT	Yes	Yes	Yes
Value display functions 	Bit display			Yes
	Message bitmap			Yes
	Bargraph			Yes
	Numerical value			Yes
	Timing relay value display			Yes
	Actual values	Yes	Yes	Yes
	Date and time	Yes	Yes	Yes

System overview



Basic devices

easy500 1

Stand-alone

12 V DC = easy...DA...
24 V DC = easy...DC...
24 V AC = easy...AB...
100 - 240 V AC = easy...AC...

8 digital inputs
2 usable as analog inputs
(DA, DC or AB versions)

4 relay outputs (max. 10 A, UL) or
4 transistor outputs

Display and keypad optional

Bolt-on and top-hat rail mounting

Screw terminals

→ Page 12/6

easy700 2

Expandable: Digital inputs/outputs and bus systems AS-Interface, CANopen, PROFIBUS-DP, DeviceNet

12 V DC = easy...DA...
24 V DC = easy...DC...
24 V AC = easy...AB...
100 - 240 V AC = easy...AC...

12 digital inputs
4 usable as analog inputs
(DA, DC or AB versions)

6 relay outputs (max. 10 A, UL) or
8 transistor outputs

Display and keypad optional

Bolt-on and top-hat rail mounting

Screw terminals

→ Page 12/7

Remote text display

Consists of:

Display/operating unit MFD-80(-B) 3

Power supply unit/communication module MFD(-AC)-CP4-500 3

Including connection cable
(5 m, can be cut to length) for
easy500/700
24 V DC = MFD-CP4-500
100 - 240 V AC = MFD-AC-CP4-500

Spring-loaded terminals

→ Page 12/16

Ethernet gateway

EASY209-SE 4

24 V DC

Serial interface easyRelay to Ethernet

→ Page 12/16

Bus modules

EASY204-DP 5

PROFIBUS-DP slave connection, 24 V DC

→ Page 12/16

EASY205-ASI 6

AS-Interface connection as slave

→ Page 12/16

EASY221-CO 7

CANopen connection, 24 V DC

→ Page 12/16

EASY222-DN 8

DeviceNet connection, 24 V DC

→ Page 12/16

Output expansion

EASY202-RE 9

2 relay outputs (max. 10 A, UL)

Bolt-on and top-hat rail mounting

Screw terminals

→ Page 12/15

I/O expansions

EASY410... 10

24 V DC

6 digital inputs

4 relay outputs (max. 10 A, UL) or
4 transistor outputs

Bolt-on and top-hat rail mounting

Screw terminals

→ Page 12/15

EASY6... 11

24 V DC

12 digital inputs

6 relay outputs (max. 10 A, UL) or
8 transistor outputs

Bolt-on and top-hat rail mounting

Screw terminals

→ Page 12/15

Coupling module

EASY200-EASY 12

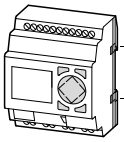
For remote connection of a digital I/O expansion through two-pole connection cable (max. 30 m);
e.g. NYM 3 × 1.5 mm²

Bolt-on and top-hat rail mounting

Screw terminals

→ Page 12/15

Ordering

	Inputs		Outputs		Other features		Supply voltage	Part no. Article no.	Price See price list	Std. pack
	Digital	Of which can be used as analog	Relays 10 A (UL)	Transistor	Display + keypad	Real-time clock				
easy500										
Stand alone										
	8	2	4	–	√	√	24 V AC	**EASY512-AB-RC** 274101		1 off
	8	2	4	–	–	√	24 V AC	**EASY512-AB-RCX** 274102		
	8	–	4	–	√	–	100 - 240 V AC	**EASY512-AC-R** 274103		
	8	–	4	–	√	√	100 - 240 V AC	**EASY512-AC-RC** 274104		
	8	–	4	–	–	√	100 - 240 V AC	**EASY512-AC-RCX** 274105		
	8	2	4	–	√	√	12 V DC	**EASY512-DA-RC** 274106		
	8	2	4	–	–	√	12 V DC	**EASY512-DA-RCX** 274107		
	8	2	4	–	√	–	24 V DC	**EASY512-DC-R** 274108		
	8	2	4	–	√	√	24 V DC	**EASY512-DC-RC** 274109		
	8	2	4	–	–	√	24 V DC	**EASY512-DC-RCX** 274110		
	8	2	–	4	√	√	24 V DC	**EASY512-DC-TC** 274111		
	8	2	–	4	–	√	24 V DC	**EASY512-DC-TCX** 274112		
	Customized inscription, user program									
	• Customized inscription of easy control relay trough labeling software Labeleditor or • Supply of easy control relay programmed with user program							**EASY-COMBINATION-***1) 257823		1 off

Notes

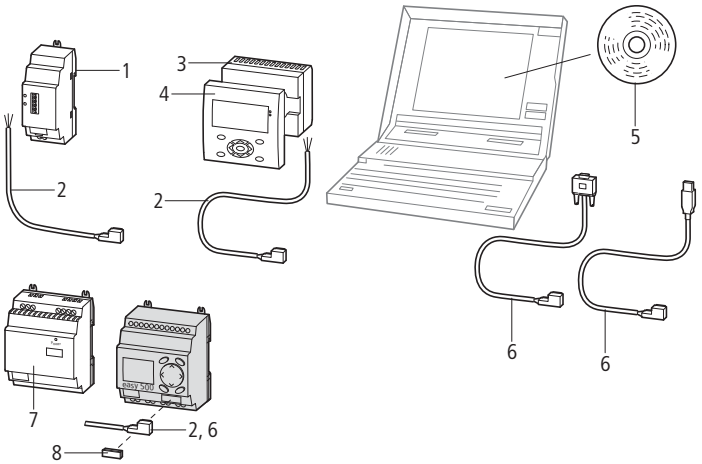
Procedure and ordering example for Labeleditor inscription software
Individually inscribe your device in 4 stages:
– Download the inscription software: www.moeller.net/support, keyword: "Labeleditor"
– Creation of label template (menu-guided in the software)
– Send the label template to the factory by email.
The email address is automatically set for the selected product by the program. When your template is sent, the Labeleditor issues a file name such as "EASY_12345.zip". This file name is part of the article to be ordered (see Ordering examples).
– Send order to the Eaton office or the electrical wholesalers.

Ordering example easy
EASY719-DC-RC with "Company logo":
1 x EASY-COMBINATION-*
1 x EASY719-DC-RC
1 x the file name "EASY_xxxxx.zip" issued by the Labeleditor

Information relevant for export to North America

Product Standards	IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking
UL File No.	E135462
UL CCN	NRAQ
CSA File No.	012528
CSA Class No.	2252-01 + 2258-02
NA Certification	UL Listed, CSA certified
Degree of Protection	IEC: IP20, UL/CSA Type: -

1) UL/CSA certification not required



Accessories	Page
1 Ethernet gateway	→ Page 12/16
2 Connection cable	→ Page 12/27
3 Power supply unit/communication	→ Page 12/23
4 Display/keypad	→ Page 12/16
5 Programming software	→ Page 12/9
6 PC programming cable	→ Page 12/9
7 Switched-mode power supply unit	→ Page 12/10
8 Memory card	→ Page 12/9

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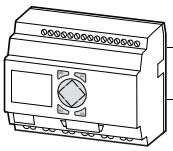
	Inputs		Outputs		Other features		Supply voltage	Part no. Article no.	Price See price list	Std. pack
	Digital	Of which can be used as analog	Relays 10 A (UL)	Transistor	Display + keypad	Real-time clock				
easy700										
Expandable: Digital inputs/outputs and bus systems AS-Interface, CANopen, PROFIBUS-DP, DeviceNet										
	12	4	6	–	√	√	24 V AC	**EASY719-AB-RC** 274113		1 off
	12	4	6	–	–	√	24 V AC	**EASY719-AB-RCX** 274114		
	12	–	6	–	√	√	100 - 240 V AC	**EASY719-AC-RC** 274115		
	12	–	6	–	–	√	100 - 240 V AC	**EASY719-AC-RCX** 274116		
	12	4	6	–	√	√	12 V DC	**EASY719-DA-RC** 274117		
	12	4	6	–	–	√	12 V DC	**EASY719-DA-RCX** 274118		
	12	4	6	–	√	√	24 V DC	**EASY719-DC-RC** 274119		
	12	4	6	–	–	√	24 V DC	**EASY719-DC-RCX** 274120		
	12	4	–	8	√	√	24 V DC	**EASY721-DC-TC** 274121		
	12	4	–	8	–	√	24 V DC	**EASY721-DC-TCX** 274122		
Customized inscription, user program										
• Customized inscription of easy control relay trough labeling software Labeleditor or • Supply of easy control relay programmed with user program								**EASY-COMBINATION-*[1)]** 257823		1 off

Notes

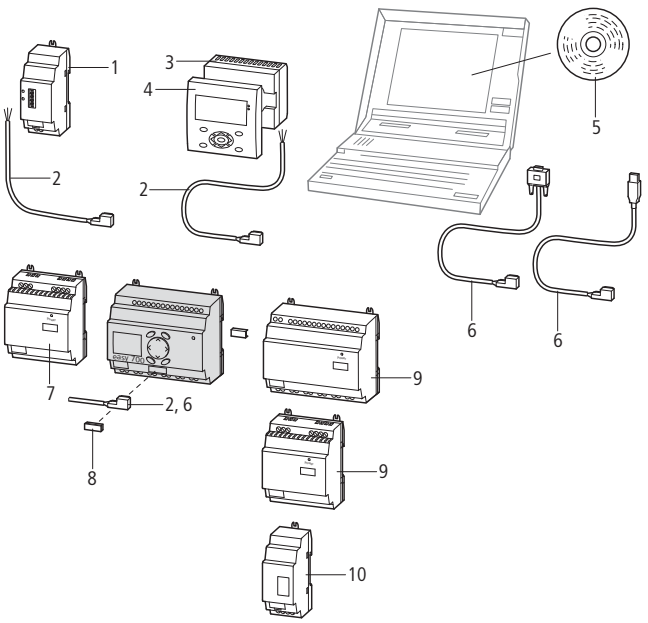
Procedure and ordering example for Labeleditor inscription software
Individually inscribe your device in 4 stages:
– Download the inscription software: www.moeller.net/support, keyword: "Labeleditor"
– Creation of label template (menu-guided in the software)
– Send the label template to the factory by email.
The email address is automatically set for the selected product by the program.
When your template is sent, the Labeleditor issues a file name such as "EASY_12345.zip".
This file name is part of the article to be ordered (see Ordering examples).
– Send order to the Eaton office or the electrical wholesalers.

Ordering example easy
EASY719-DC-RC with "Company logo":
1 x EASY-COMBINATION-*
1 x EASY719-DC-RC
1 x the file name "EASY_xxxxx.zip" issued by the Labeleditor

Information relevant for export to North America

Product Standards	IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking
UL File No.	E135462
UL CCN	NRAQ
CSA File No.	012528
CSA Class No.	2252-01 + 2258-02
NA Certification	UL Listed, CSA certified
Degree of Protection	IEC: IP20, UL/CSA Type: -

[1)] UL/CSA certification not required



Accessories	Page
1 Ethernet gateway	→ Page 12/16
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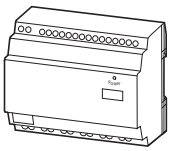
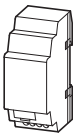
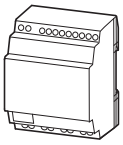
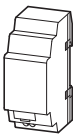
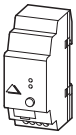
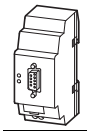
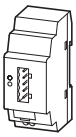
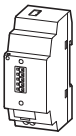
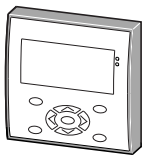
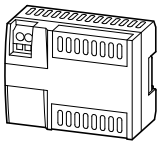
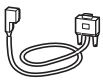
6 PC programming cable	→ Page 12/9
7 Switched-mode power supply unit	→ Page 12/10
8 Memory card	→ Page 12/9
9 Inputs/outputs expansion	→ Page 12/15
10 output expansion, bus module, coupling module	→ Page 12/16

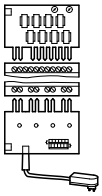
	Inputs	Outputs		Supply voltage	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
	Digital	Relay 10 A (UL)	Transistor					
I/O expansions								
Can be used through easyLink								
	12	6	–	100 - 240 V AC	**EASY618-AC-RE** 212314		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	12	–	8	24 V DC	**EASY620-DC-TE** 212313			
	12	6	–	24 V DC	**EASY618-DC-RE** 232112			Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	–	2	–	24 V DC	**EASY202-RE**1) 232186			
	6	4	–	24 V DC	**EASY410-DC-RE** 114293			NA Certification: Request filed for UL and CSA Degree of Protection: IEC: IP20, UL/CSA Type: -
	6	–	4	24 V DC	**EASY410-DC-TE** 114294			
Coupling module								
Can be used through easyLink								
	For remote connection of a digital I/O expansion up to 30 m.				**EASY200-EASY** 212315		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
Bus modules								
Can be used through easyLink								
	AS-Interface	Slave 4 inputs, 4 outputs, 4 parameter bits Addresses available 0 to 31		–	**EASY205-ASI** 221598		1 off	
	PROFIBUS-DP	Slave Addresses available 1 to 126		24 V DC	**EASY204-DP** 212316			
	CANopen	Addresses available 1 to 127		24 V DC	**EASY221-CO** 233539			
	DeviceNet	Addresses available 0 to 63		24 V DC	**EASY222-DN** 233540			
Ethernet gateway								
	Serial interface easyRelay or MFD-...CP8/CP10... to Ethernet, for connecting to easyOPC server, easySoft, or easyCom			24 V DC	**EASY209-SE** 101520		1 off	

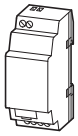
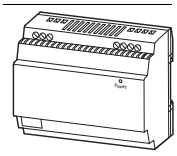
Notes

1) Not for use in combination with basic unit EASY719-DA-...
Cannot be used on the EASY200-EASY coupling module

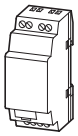
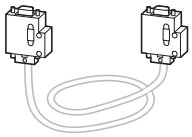
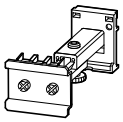
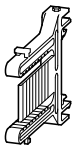
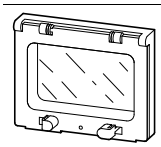
HPL12009EN

	Supply voltage	Description	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Remote text display						
Display/keypad Monochrome display 132 × 64 pixels with switchable backlight IP65, removable silver front frame						
		With keypad, with Moeller company logotype NEMA 4x in conjunction with MFD-XM-80 protective diaphragm → 12/29	**MFD-80-B** 265251		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP65, in combination with MFD-XM-80: UL/CSA Type 4X
		With keypad, without Moeller company logotype NEMA 4x in conjunction with MFD-XM-80 protective diaphragm → 12/29	**MFD-80-B-X** 284905			
		Without keypad, with Moeller company logotype	**MFD-80** 265250		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP65, UL/CSA Type 4X
		Without keypad, without Moeller company logotype NEMA 4x	**MFD-80-X** 284904			
Power supply unit/communication modules IP20, can be combined with display/operating unit MFD-80... as remote text display						
	24 V DC	With connection cable (5 m, can be cut to length)	**MFD-CP4-500** 274094		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	100 - 240 V AC	With connection cable (5 m, can be cut to length)	**MFD-AC-CP4-500** 286823			
	24 V DC	Without connection cable	**MFD-CP4** 280888			
	100 - 240 V AC	Without connection cable	**MFD-AC-CP4** 286822			
Programming software						
		Menu selection in 13 languages Operating systems: Windows 2000 SP4, Windows XP SP3, Windows Vista (32 Bit), Windows 7 (32 Bit)	**EASY-SOFT-BASIC** 284545		1 off	UL/CSA certification not required
			EASY-SOFT-PRO 266040			
Programming cable						
		SUB-D, 9 pole, serial, 2 m	**EASY-PC-CAB** 202409		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
		USB, 2 m	**EASY-USB-CAB** 107926		1 off	
Connecting cables						
		For connecting the MFD(-AC)-CP4 or EASY209-SE with easy500/easy700, 5 m, can be cut to length	**MFD-CP4-500-CAB5** 280886		1 off	
Memory cards						
		32-kB module	**EASY-M-32K** 270884		1 off	
Manuals						
	Deutsch		**AWB2528-1508D** 278499		1 off	
	English		**AWB2528-1508GB** 278500		1 off	

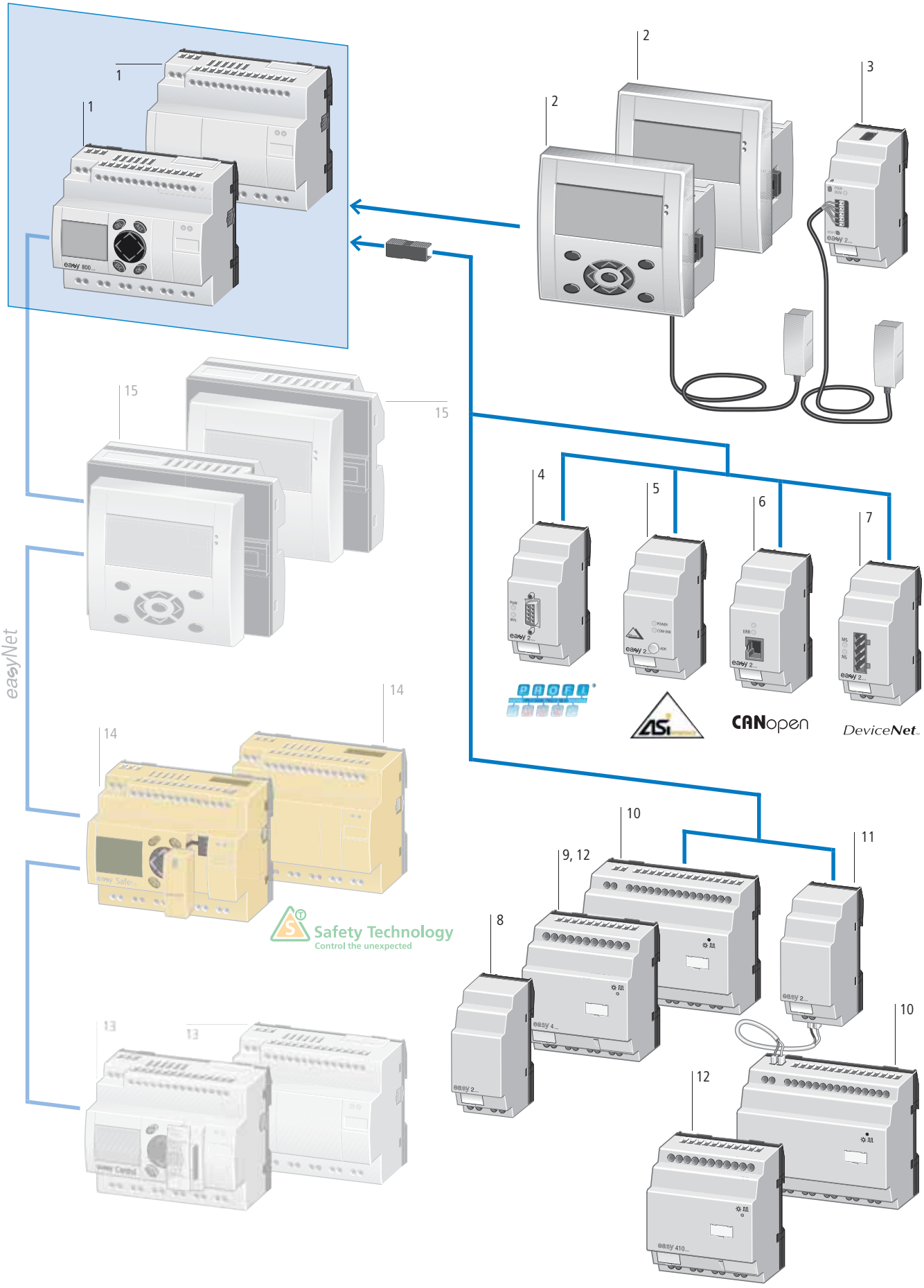
	Supply voltage	Description	For use with	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Input/output simulators							
	24 V DC	With plug-in power supply unit 100 - 240 V AC/ 24 V DC	easy500-DC	**EASY412-DC-SIM** 212318		1 off	
	24 V DC	With plug-in power supply unit 120 V AC/24 V DC, plug for North America	easy500-DC	**EASY412-DC-SIM-NA** 222566			
	24 V DC	With plug-in power supply unit 100 - 240 V AC/ 24 V DC	easy700-DC easy800-DC EC4P	**EASY800-DC-SIM** 256278			

	Description	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Switched-mode power supply units					
Primary-switched mode, stabilized					
	Rated input voltage: 50/60 Hz: 100 - 240 V Rated output voltage: 24 V/12 V DC Rated output current: 0.35 A/20 mA	**EASY200-POW** 229424		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 1.25 A	**EASY400-POW** 212319		1 off	
		EASY430-POW 110940		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 107.1-01; CE marking UL File No.: E300415 UL CCN: NMTR, NMTR7 CSA File No.: UL report applies to both US and Canada CSA Class No.: 3211-87, 3211-07 NA Certification: UL Listed, certified by UL for use in Canada Degree of Protection: IEC: IP20, UL/CSA Type: -
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 2.5 A	**EASY500-POW** 110941		1 off	
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 4.2 A	**EASY600-POW** 262399		1 off	

HPL12011EN

	Description	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Ballast					
To increase the AC input current					
	6 channels, cable length up to 100 m	**EASY256-HCI** 231168		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
PROFIBUS-DP data cable					
	Twisted pair, without plug, 2-core, 2 x 0.64 mm² (only suitable for fixed wiring) 100 m	**ZB4-900-KB1** 206983		100 m	
PROFIBUS-DP bus connector plug					
	Pins, 9 pole Cable entry, angled 90°	**ZB4-209-DS2** 206982		1 off	
	Metallized insulated housing Maximum transfer rate 12 MBit/s Integrated switch (accessible from the outside) for the bus terminating resistors Terminal block for two cable entries, with straight or 90° angled cable entry, as required	**ZB4-209-DS3** 217820		1 off	
Connection plug					
	Bus connector plug between base unit and expansion unit/bus module	**EASY-LINK-DS** 221607		1 off	UL/CSA certification not required
Fixing bracket For screw fixing to mounting plate					
	3 fixing brackets per easy400, 500, 600, 700, 800, EC4P, ES4P 2 fixing brackets per easy200 3 fixing brackets per, MFD...-CP8/CP10…	**ZB4-101-GF1** 061360		9 off	UL/CSA certification not required
Telescopic clip					
	With 35mm top-hat rail to IEC/EN 60715 for adjusting the mounting depth when rear mounting in CI-K… enclosures and cabinets. Stepless adjustment via scale from 75 – 115 mm. Screw and snap fastening	**M22-TA** 226161		1 off	Product Standards: IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94-91; CE marking UL File No.: E29184 UL CCN: NKCR CSA File No.: 012528 CSA Class No.: 3211-03 NA Certification: UL Listed, CSA certified
Top-hat rail adapter for inspection flap window					
	12 mm x 66 mm x 82 mm Mounting on hinged inspection window, for front fitting of devices. Complete set, consisting of 2 brackets and 4 screws	**SKF-HA** 233782		1 off	UL/CSA certification not required
Inspection window					
	94 mm x 77 mm x 25 mm (4 space units) For use with easy500	**SKF-FF4** 233780		1 off	UL/CSA certification not required
	130 mm x 77 mm x 25 mm (6 space units) For use with EASY700, EASY800, EC4P, ES4P	**SKF-FF6** 233781		1 off	

System overview



Basic device

easy800	1
Expandable: Digital and analog inputs/ outputs and bus systems AS-Interface, CANopen, PROFIBUS-DP, DeviceNet	
Bus system easyNet on board	
24 V DC = easy...DC... 100 - 240 V AC = easy...AC...	
12 digital inputs 4 usable as analog inputs (DC versions)	
6 relay outputs (max. 10 A, UL) or 8 transistor outputs	
1 analog output, optional on DC versions	
Display and keypad optional	
Bolt-on and top-hat rail mounting	
Screw terminals	
Technical overview	
→ Page 12/14	

Remote text display

Consists of:	
Display/operating unit MFD-80(-B)	2
Power supply/communication module	2
Including connection cable (5 m, can be cut to length) for easy800 24 V DC = MFD-CP4-800 100 - 240 V AC = MFD-AC-CP4-800	
Spring-loaded terminals	
→Page 12/16	

Ethernet gateway

EASY209-SE	3
24 V DC Serial interface easyRelay to Ethernet	
→ Page 12/16	

Bus modules

EASY204-DP4	4
PROFIBUS DP connection as slave, 24 V DC	
→ Page 12/16	

EASY205-ASI	5
AS-Interface connection as slave	
→ Page 12/16	

EASY221-CO	6
CANopen connection, 24 V DC	
→ Page 12/16	

EASY222-DN	7
DeviceNet connection, 24 V DC	
→ Page 12/16	

Output expansion

EASY202-RE	8
2 relay outputs (max. 10 A, UL)	
Bolt-on and top-hat rail mounting	
Screw terminals	
→ Page 12/15	

I/O expansions

EASY406-DC-ME	9
24 V DC 1 digital input	
2 analog inputs (2 × 0–10 V, 2 × 0 – 20 mA, or 2 × x Pt100; voltage inputs can be combined in any arrangement Voltage inputs (0 – 10 V) can optionally be used as digital inputs	
2 transistor outputs	
1 analog output (0 - 10 V)	
Bolt-on and top-hat rail mounting	
Screw terminals	
→ Page 12/15	

EASY411-DC-ME	9
24 V DC	
1 digital input	
6 analog inputs (2 × 0–10 V, 2 × 0–20 mA and 2 × Pt100; voltage inputs (0–10 V) can optionally be used as digital inputs	
2 transistor outputs/ 2 analog outputs (0–10 V)	
Bolt-on and top-hat rail mounting	
Screw terminals	
→ Page 12/15	

EASY6...	10
24 V DC	
12 digital inputs	
6 relay outputs (max. 10 A, UL) or 8 transistor outputs	
Bolt-on and top-hat rail mounting	
Screw terminals	
→ Page 12/15	

EASY410...	12
24 V DC	
6 digital inputs	
4 relay outputs (max. 10 A, UL) or 4 transistor outputs	
Bolt-on and top-hat rail mounting	
Screw terminals	
→ Page 12/15	

Coupling module

EASY200-EASY	11
For remote connection of a digital I/O expansion through two-pole connection cable (max. 30 m); e.g. NYM 3 × 1.5 mm²	
Bolt-on and top-hat rail mounting	
Screw terminals	
→ Page 12/15	

Compact PLC easyControl

EC4P	13
→ Page 14/64	

Safety control relays easySafety

ES4P	14
→ Page 13/5	

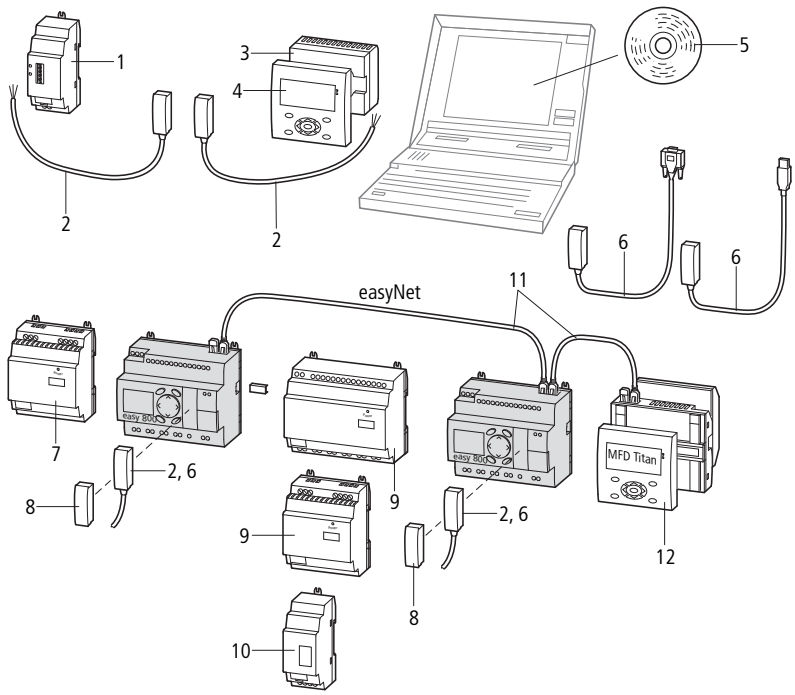
Multi-function display MFD-Titan	15
→ Page 12/22	

Ordering

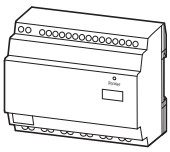
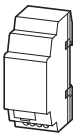
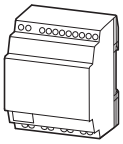
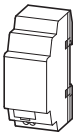
Inputs		Outputs			Other features		Supply voltage	Part no. Article no.	Price See price list	Std. pack
Digital	Of which can be used as analog	Relay 10 A (UL)	Transistor	Analog	Display + keypad	Real-time clock				
easy800										
Expandable: Digital and analog inputs/outputs and bus systems AS-Interface, CANopen, PROFIBUS-DP, DeviceNet Bus system easyNet on board Individual laser inscription possible with EASY-COMBINATION-* → Page 12/6										
easyNet on board										
12	–	6	–	–	√	√	100 - 240 V AC	**EASY819-AC-RC** 256267		1 off
12	–	6	–	–	–	√	100 - 240 V AC	**EASY819-AC-RCX** 256268		
12	4	6	–	–	√	√	24 V DC	**EASY819-DC-RC** 256269		
12	4	6	–	–	–	√	24 V DC	**EASY819-DC-RCX** 256270		
12	4	6	–	1	√	√	24 V DC	**EASY820-DC-RC** 256271		
12	4	6	–	1	–	√	24 V DC	**EASY820-DC-RCX** 256272		
12	4	–	8	–	√	√	24 V DC	**EASY821-DC-TC** 256273		
12	4	–	8	–	–	√	24 V DC	**EASY821-DC-TCX** 256274		
12	4	–	8	1	√	√	24 V DC	**EASY822-DC-TC** 256275		
12	4	–	8	1	–	√	24 V DC	**EASY822-DC-TCX** 256276		

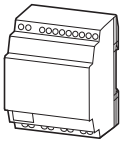
Information relevant for export to North America

Product Standards	IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking
UL File No.	E135462
UL CCN	NRAQ
CSA File No.	012528
CSA Class No.	2252-01 + 2258-02
NA Certification	UL Listed, CSA certified
Degree of Protection	IEC: IP20, UL/CSA Type: -



Accessories	Page
1 Ethernet gateway	→ Page 12/16
2 Connection cable	→ Page 12/27
3 Power supply unit/communication module	→ Page 12/23
4 Display/keypad	→ Page 12/16
5 Programming software	→ Page 12/9
6 PC programming cable	→ Page 12/9
7 Switched-mode power supply unit	→ Page 12/10
8 Memory card	→ Page 12/9
9 Inputs/outputs expansion	→ Page 12/15
10 output expansion units, bus module, coupling module	→ Page 12/16
11 easyNet	→ Page 12/18
12 Multi-function display MFD-Titan	→ Page 12/22

	Inputs	Outputs		Supply voltage	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
	Digital	Relay 10 A (UL)	Transistor					
I/O expansions								
Can be used through easyLink								
	12	6	–	100 - 240 V AC	**EASY618-AC-RE** 212314		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	12	–	8	24 V DC	**EASY620-DC-TE** 212313			
	12	6	–	24 V DC	**EASY618-DC-RE** 232112			Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	–	2	–	24 V DC	**EASY202-RE**1) 232186			
	6	4	–	24 V DC	**EASY410-DC-RE** 114293			NA Certification: Request filed for UL and CSA Degree of Protection: IEC: IP20, UL/CSA Type: -
	6	–	4	24 V DC	**EASY410-DC-TE** 114294			
Coupling module								
Can be used through easyLink								
	For remote connection of a digital I/O expansion up to 30 m.				**EASY200-EASY** 212315		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CE marking; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987 UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -

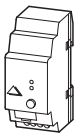
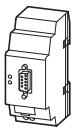
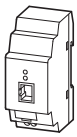
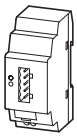
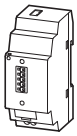
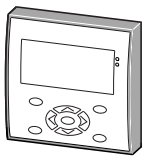
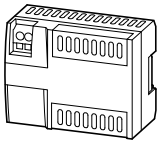
	Inputs		Outputs			Supply voltage	Part no. Article no.	Price See price list	Std. pack
	Digital / analog	Of which usable as digital	Relays 10 A (UL)	Transistor	Analog				
I/O expansions									
Can be used through easyLink									
	1 / 2 2)	2	–	2	1	24 V DC	**EASY406-DC-ME** 114295		1 off
	1 / 6 3)	2	–	2	2	24 V DC	**EASY411-DC-ME** 116567		1 off

Notes

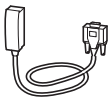
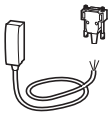
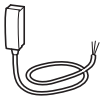
1) Not for use in combination with EASY719-DA-…basic unit
Cannot be used on the EASY200-EASY coupling module
2) 2 × 0 - 10 V, 2 × 0 - 20 mA, 2 × RTD (2/3-wire connection); any combination
Voltage inputs (0–10 V) can optionally be used as digital inputs
3) 2 x 0 - 10 V, 2 x 0 - 20 mA, 2 x Pt100 (2/3 wire connection);
Voltage inputs (0–10 V) can optionally be used as digital inputs

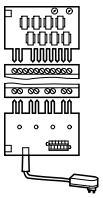
Information relevant for export to North America

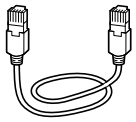
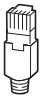
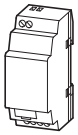
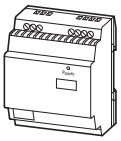
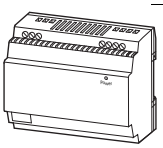
NA Certification	Request filed for UL and CSA
Degree of Protection	IEC: IP20, UL/CSA Type: -

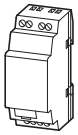
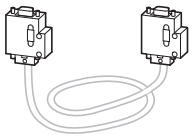
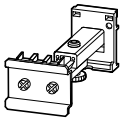
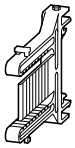
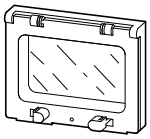
	Description		Supply voltage	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Bus modules							
Can be used through easyLink							
	AS-Interface	Slave 4 inputs, 4 outputs, 4 parameter bits Addresses available 0 to 31	–	**EASY205-ASI** 221598		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CE marking; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987 UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	PROFIBUS-DP	Slave Addresses available 1 to 126	24 V DC	**EASY204-DP** 212316			
	CANopen	Addresses available 1 to 127	24 V DC	**EASY221-CO** 233539			
	DeviceNet	Addresses available 0 to 63	24 V DC	**EASY222-DN** 233540			
Ethernet gateway							
	Serial interface easyRelay or MFD-...CP8/CP10... to Ethernet, for connecting to easyOPC server, easySoft, or easyCom		24 V DC	**EASY209-SE** 101520		1 off	
Remote text display							
Display/keypad Monochrome display 132 × 64 pixels with switchable backlight IP65, removable silver front frame							
	With keypad, with Moeller company logotype NEMA 4x in conjunction with MFD-XM-80 protective diaphragm → 12/29			**MFD-80-B** 265251		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP65, in combination with MFD-XM-80: UL/CSA Type 4X
	With keypad, without Moeller company logotype NEMA 4x in conjunction with MFD-XM-80 protective diaphragm → 12/29			**MFD-80-B-X** 284905		1 off	
	Without keypad, with Moeller company logotype			**MFD-80** 265250		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP65, UL/CSA Type 4X
	Without keypad, without Moeller company logotype NEMA 4x			**MFD-80-X** 284904		1 off	
Power supply unit/communication modules IP20, can be combined with display/operating unit MFD-80... as remote text display							
	With connection cable (5 m, can be cut to length)		24 V DC	**MFD-CP4-800** 274095		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	With connection cable (5 m, can be cut to length)		100 - 240 V AC	**MFD-AC-CP4-800** 286824			
	Without connection cable		24 V DC	**MFD-CP4** 280888			
	Without connection cable		100 - 240 V AC	**MFD-AC-CP4** 286822			

HPL12017EN

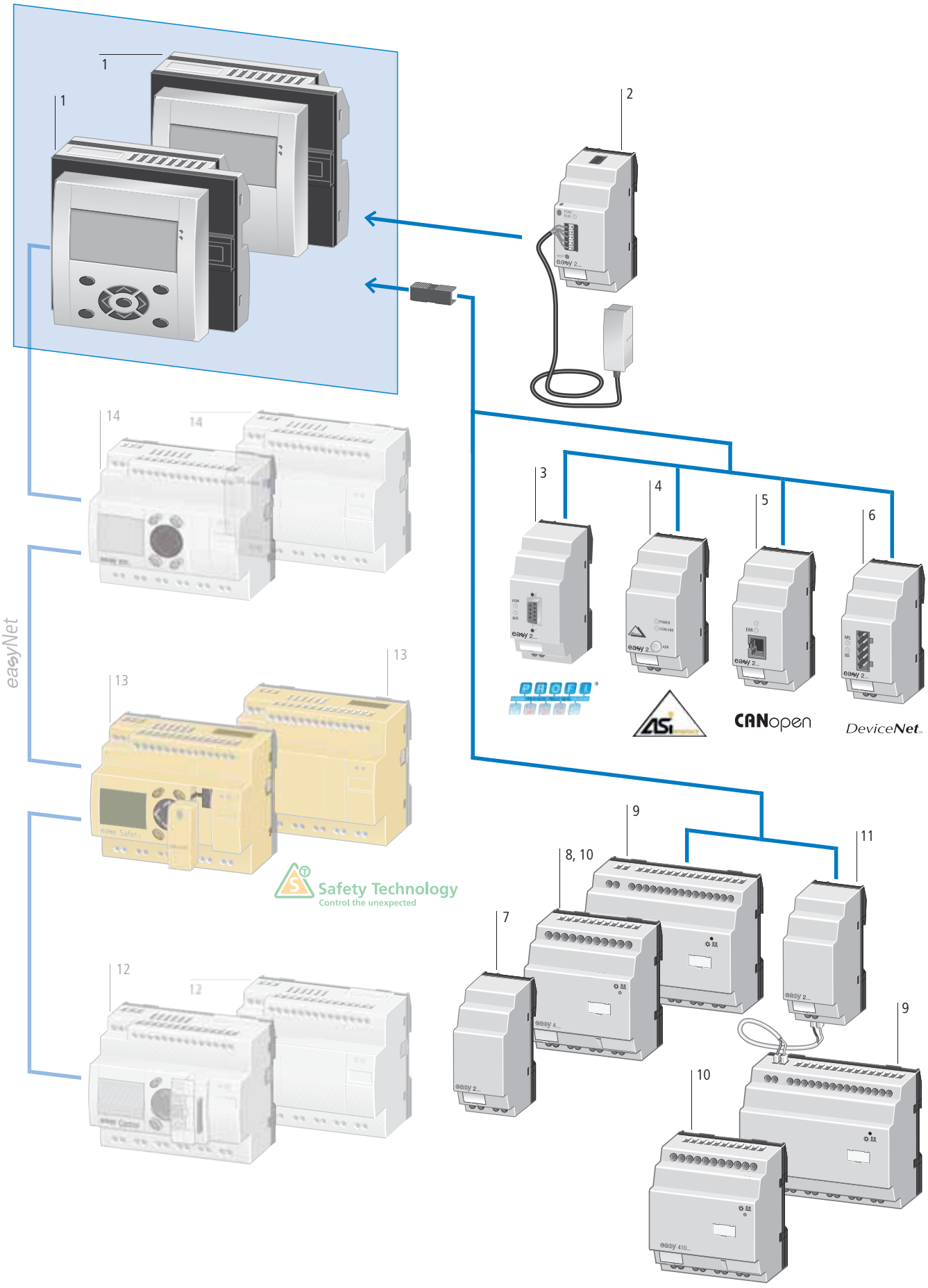
	Description	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Programming software					
	Menu selection in 13 languages Operating systems: Windows 2000 SP4, Windows XP SP3, Windows Vista (32 Bit), Windows 7 (32 Bit)	**EASY-SOFT-PRO** 266040		1 off	UL/CSA certification not required
Programming cable					
	Sub-D, 9 pole, serial, 2 m	**EASY800-PC-CAB** 256277		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2258-02 NA Certification: UL Listed, CSA certified
	USB, 2 m	**EASY800-USB-CAB** 106408		1 off	
Modem cable					
	Configurable modem, printer and programming cable, possible transfer rate 56 kbaud, 9 pole Sub-D plug (plug + socket for assembly by user)	**EASY800-MO-CAB** 286079		1 off	
Connecting cables					
	For connecting MFD(-AC)-CP4 with easy800/MFD-..-CP8/CP10... 5 m, can be cut to length	**MFD-CP4-800-CAB5** 280887		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
Memory cards					
	256-kB module	**EASY-M-256K** 256279		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -

	Supply voltage	Description	For use with	Part no. Article no.	Price See price list	Std. pack
Input/output simulator						
	24 V DC	With plug-in power supply unit 100 - 240 V AC/ 24 V DC	easy700-DC easy800-DC EC4P	**EASY800-DC-SIM** 256278		1 off
Manual						
		User manual, German		**AWB2528-1423D** 261371		1 off
		User manual, English		**AWB2528-1423GB** 262671		1 off

	Description	For use with	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Network connection cables						
	Length: 0.3 m	easyNet	**EASY-NT-30** 256283		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	Length: 0.8 m	easyNet	**EASY-NT-80** 256284			
	Length: 1.5 m	easyNet	**EASY-NT-150** 256285			
Bus termination resistor						
	8 pole, RJ45, 124 Ω Connection to PIN 1 and PIN 2	easyNet	**EASY-NT-R** 256281		2 off	
Data cable						
	4 x 0.14 mm², twisted pair, AWG 26 Length: 100 m	easyNet	**EASY-NT-CAB** 256286		1 off	UL File No.: E135462 UL CCN: NRAQ NA Certification: UL Listed Degree of Protection: IEC: IP 20, UL/CSA Type: -
Bus connector plug						
	8 pole, RJ45	easyNet	**EASY-NT-RJ45** 256280		10 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
Crimping tool						
	For RJ45 plug	EASY-NT-CAB EASY-NT-RJ45	**EASY-RJ45-TOOL** 256282		1 off	
Point-to-point connection cable						
	Serial interface for connecting MFD-…-CP8/ CP10... to easy800 or MFD-…-CP8/CP10..., 5 m, can be cut to length		**MFD-800-CAB5** 266041		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
Switched-mode power supply units						
Primary-switched mode, stabilized						
	Rated input voltage: 50/60 Hz: 100 - 240 V Rated output voltage: 24 V/12 V DC Rated output current: 0.35 A/20 mA		**EASY200-POW** 229424		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 1.25 A		**EASY400-POW** 212319		1 off	
			EASY430-POW 110940		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 107.1-01; CE marking UL File No.: E300415 UL CCN: NMTR, NMTR7 CSA File No.: UL report applies to both US and Canada CSA Class No.: 3211-87, 3211-07 NA Certification: UL Listed, certified by UL for use in Canada Degree of Protection: IEC: IP20, UL/CSA Type: -
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 2.5 A		**EASY500-POW** 110941		1 off	
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 4.2 A		**EASY600-POW** 262399		1 off	

	Description	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Ballast					
To increase the AC input current					
	6 channels, cable length up to 100 m	**EASY256-HCI** 231168		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
PROFIBUS-DP data cable					
	Twisted pair, without plug, 2-core, 2 x 0.64 mm² (only suitable for fixed wiring) 100 m	**ZB4-900-KB1** 206983		100 m	
PROFIBUS-DP bus connector plug					
	Pins, 9 pole Cable entry, angled 90°	**ZB4-209-DS2** 206982		1 off	
	Metallized insulated housing Maximum transfer rate 12 Mbits/s Integrated plug, accessible from outside, for bus terminating resistors Terminal block for two cable entries, with straight or 90° angled cable entry, as required	**ZB4-209-DS3** 217820		1 off	
Connection plug					
	Bus connector plug between base unit and expansion unit/bus module	**EASY-LINK-DS** 221607		1 off	UL/CSA certification not required
Fixing bracket For screw fixing to mounting plate					
	3 fixing brackets per easy400, 500, 600, 700, 800, EC4P, ES4P 2 fixing brackets per easy200 3 fixing brackets per MFD...-CP8/CP10-…	**ZB4-101-GF1** 061360		9 off	UL/CSA certification not required
Telescopic clip					
	With 35 mm top-hat rail to IEC/EN 60715 for mounting depth compensation when rear mounting in CI-K… enclosures and cabinets. Stepless adjustment via scale from 75 – 115 mm. Screw and snap fastening	**M22-TA** 226161		1 off	Product Standards: IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94-91; CE marking UL File No.: E29184 UL CCN: NKCR CSA File No.: 012528 CSA Class No.: 3211-03 NA Certification: UL Listed, CSA certified
Top-hat rail adapter for inspection flap window					
	12 mm x 66 mm x 82 mm Mounting on hinged inspection window, for front fitting of devices. Complete set, consisting of 2 brackets and 4 screws	**SKF-HA** 233782		1 off	UL/CSA certification not required
Inspection window					
	130 mm x 77 mm x 25 mm (6 space units) For use with EASY700, EASY800, EC4P, ES4P	**SKF-FF6** 233781		1 off	UL/CSA certification not required

System overview



MFD-Titan

The multi-function display MFD-Titan can be used in the following combinations:
Power supply unit/CPU
Power supply unit/CPU + I/O modules
Power supply unit/CPU + display and operating unit
Power supply unit/CPU + display and operating unit + I/O modules
→ Page 12/22

I/O modules 1
24 V DC
100 - 240 V AC
12 digital inputs
4 usable as analog inputs
(DC versions)
4 relay outputs (max. 10 A,UL)
or 4 transistor outputs
1 analog output,
optional on DC versions
Spring-loaded terminals
→ Page 12/24

I/O modules with temperature measuring 1
24 V DC
6 digital inputs
2 of which usable as analog inputs
2 Pt 100 or 2 Ni1000 RTD inputs
4 transistor outputs
1 Analog output, optional
Spring-loaded terminals
→ Page 12/24

Power supply unit/CPU module 1
24 V DC
100 - 240 V AC
Bus system easyNet optionally on-board
→ Page 12/22

Display/keypad 1
24 V DC
Monochrome display
132 × 64 pixels
With or without keypad
Custom laser labeling possible
→ Page 12/16

Ethernet gateway

EASY209-SE 2
24 V DC
Serial interface, PSU/CPU module to Ethernet
→ Page 12/16

Bus modules

EASY204-DP 3
PROFIBUS DP connection as slave, 24 V DC
→ Page 12/16

EASY221-CO 5
CANopen connection, 24 V DC
→ Page 12/16

EASY205-ASI 4
AS-Interface connection as slave
→ Page 12/16

EASY222-DN 6
DeviceNet connection, 24 V DC
→ Page 12/16

Output expansion

EASY202-RE 7
2 relay outputs (max. 10 A, UL)
Bolt-on and top-hat rail mounting
Screw terminals
→ Page 12/15

I/O expansions

EASY406-DC-ME 8
24 V DC
1 digital input
2 analog inputs
(2 × 0–10 V, 2 × 0–20 mA, 2 × RTD);
any combination
Voltage inputs (0–10 V) can optionally be used as digital inputs
2 transistor outputs
1 analog output (0 - 10 V)
Bolt-on and top-hat rail mounting
Screw terminals
→ Page 12/15

EASY411-DC-ME 8
24 V DC
1 digital input
6 analog inputs
(2 x 0 - 10 V, 2 x 0 - 20 mA, 2 x Pt100);
Voltage inputs (0–10 V) can optionally be used as digital inputs
2 transistor outputs/
2 Analog outputs (0 - 10 V)
Bolt-on and top-hat rail mounting
Screw terminals
→ Page 12/15

EASY6... 9
24 V DC
12 digital inputs
6 relay outputs (max. 10 A,UL)
or 8 transistor outputs
Bolt-on and top-hat rail mounting
Screw terminals
→ Page 12/15

EASY410... 10
24 V DC
6 digital inputs
4 relay outputs (max. 10 A,UL)
or 4 transistor outputs
Bolt-on and top-hat rail mounting
Screw terminals
→ Page 12/15

Coupling module

EASY200-EASY 11
For remote connection of a digital I/O expansion through two-pole connection cable (max. 30 m);
e.g. NYM 3 × 1.5 mm²
→ Page 12/15

Compact PLC easyControl

EC4P 12
→ Page 14/64

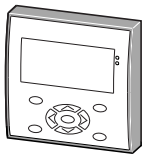
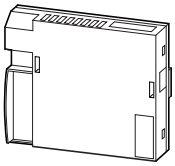
Safety control relays easySafety

ES4P 13
→ Page 13/5

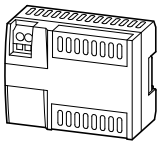
Control relays easy800

EASY8… 14
→ Page 12/14

Ordering

	Supply voltage	Description	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Display/keypad						
Monochrome display 132 × 64 pixels with switchable backlight IP65, removable silver front frame						
		With keypad, with Moeller company logotype NEMA 4x in conjunction with MFD-XM-80 protective diaphragm → 12/29	**MFD-80-B** 265251		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP65, in combination with MFD-XM-80: UL/CSA Type 4X
		With keypad, without Moeller company logotype NEMA 4x in conjunction with MFD-XM-80 protective diaphragm → 12/29	**MFD-80-B-X** 284905		1 off	
		Without keypad, with Moeller company logotype NEMA 4x	**MFD-80** 265250		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP65, UL/CSA Type 4X
		Without keypad, without Moeller company logotype NEMA 4x	**MFD-80-X** 284904		1 off	
Power supply unit/CPU module						
Can be combined with display and control unit MFD-80-.. and I/O module; expandable: Digital and analog inputs/outputs and bus systems AS-Interface, CANopen, PROFIBUS-DP, DeviceNet; bus system easyNet optional on-board IP20 Spring-loaded terminals						
	Supply voltage					
	100 - 240 V AC	Program and screen memory, with easyNet	**MFD-AC-CP8-NT** 274092		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	100 - 240 V AC	Program and screen memory, without easyNet	**MFD-AC-CP8-ME** 274091			
	24 V DC	Program and screen memory, without easyNet	**MFD-CP8-ME** 267164			
	24 V DC	Program and screen memory, with easyNet	**MFD-CP8-NT** 265253			
	24 V DC	Dual program and screen memory as MFD-...-CP8..., without easyNet	**MFD-CP10-ME** [1] 133801		1 off	
	24 V DC	Dual program and screen memory as MFD-...-CP8..., with easyNet	**MFD-CP10-NT** [1] 133800		1 off	

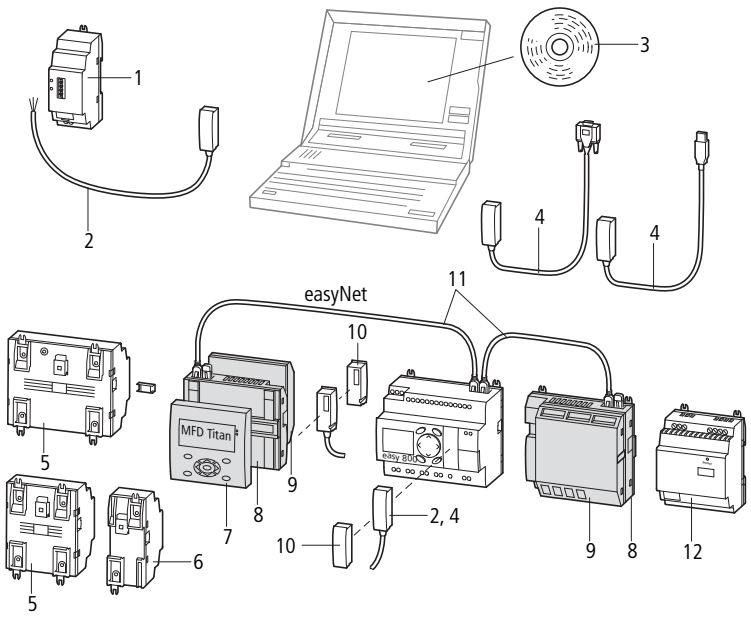
[1] **Note** [1] For availability please inquire

	Supply voltage	Description	For use with	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Power supply unit/communication modules							
IP20, can be combined with display/operating unit MFD-80... as remote text display							
	24 V DC	With connection cable (5 m, can be cut to length)	easy500 easy700	**MFD-CP4-500** 274094		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	24 V DC	With connection cable (5 m, can be cut to length)	easy800 EC4P ES4P	**MFD-CP4-800** 274095			
	100 - 240 V AC	With connection cable (5 m, can be cut to length)	easy500 easy700	**MFD-AC-CP4-500** 286823			
	100 - 240 V AC	With connection cable (5 m, can be cut to length)	easy800 EC4P ES4P	**MFD-AC-CP4-800** 286824			
	24 V DC	Without connection cable		**MFD-CP4** 280888			
	100 - 240 V AC	Without connection cable		**MFD-AC-CP4** 286822			
Customized inscription, user program							
• Customized inscription of multi-function display with labeling software Labeleditor or • Supply of multi-function display programmed with user program			MFD-80-... MFD-CP8... MFD-CP10...	**MFD-COMBINATION-*** 265260		1 off	UL/CSA certification not required

Notes

Procedure and ordering example for Labeleditor inscription software
Individually inscribe your device in 4 stages:
– Download the inscription software: www.moeller.net/support, keyword: “Labeleditor”
– Creation of label template (menu-guided in the software)
– Send the label template to the factory by email. The email address is automatically set for the selected product by the program. When your template is sent, the Labeleditor issues a file name such as “EASY_12345.zip”. This file name is part of the article to be ordered (see Ordering examples).
– Send order to the Eaton office or the electrical wholesalers.

Ordering example: MFD-Titan
MFD-80-B multi-function display with “company name”:
1 x MFD-COMBINATION-*
1 x MFD-80-B
1 x the file name “MFD_xxxxx.zip” issued by the Labeleditor



Accessories	Page
1 Ethernet gateway	→ Page 12/16
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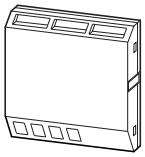
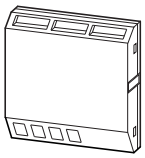
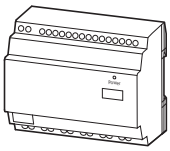
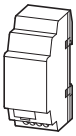
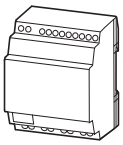
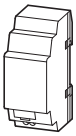
4 PC programming cable	→ Page 12/9
5 Inputs/outputs expansion	→ Page 12/15
6 output expansion, bus module, coupling module	→ Page 12/16
7 Display/keypad	→ Page 12/16
8 Power supply unit/CPU module	→ Page 12/23
9 I/O module	→ Page 12/17
10 Memory card	→ Page 12/9
11 easyNet	→ Page 12/18
12 Switched-mode power supply unit	→ Page 12/10

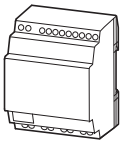
HPL12024EN

Power supply	For use with	Inputs Digital	Ofwhich can be used as analog	Pt100	Outputs Relays 10 A (UL)	Transistor	Analog	Temperature range	**Part no.** Article no.	**Price** See price list	Std. pack
I/O modules											
IP20, spring-loaded terminals 											
24 V DC	MFD-CP8... MFD-CP10...	12	4	–	4	–	–	–	**MFD-R16** 265254		1 off
24 V DC	MFD-CP8... MFD-CP10...	12	4	–	–	4	–	–	**MFD-T16** 265255		1 off
24 V DC	MFD-CP8... MFD-CP10...	12	4	–	4	–	1	–	**MFD-RA17** 265364		1 off
24 V DC	MFD-CP8... MFD-CP10...	12	4	–	–	4	1	–	**MFD-TA17** 265256		1 off
100 - 240 V DC	MFD-AC-CP8...	12	–	–	4	–	–	–	**MFD-AC-R16** 274093		1 off
I/O module with temperature measuring											
IP20, spring-loaded terminals Temperature range configurable 											
24 V DC	MFD-CP8... as of device version 08, MFD-CP10...	6	2	2	–	4	–	-40…+90 °C 0…+250 °C 0…+400 °C	**MFD-TP12-PT-A** 106042		1 off
		6	2	2	–	4	–	-200…+200 °C 0…+850 °C	**MFD-TP12-PT-B** 106043		1 off
		6	2	–	–	4	–	-40…+90 °C 0…+250 °C	**MFD-TP12-NI-A** 106044		1 off
		6	2	2	–	4	1	-40…+90 °C 0…+250 °C 0…+400 °C	**MFD-TAP13-PT-A** 106045		1 off
		6	2	2	–	4	1	-200…+200 °C 0…+850 °C	**MFD-TAP13-PT-B** 106046		1 off
		6	2	–	–	4	1	-40…+90 °C 0…+250 °C	**MFD-TAP13-NI-A** 106047		1 off

Information relevant for export to North America

Product Standards	IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking
UL File No.	E135462
UL CCN	NRAQ
CSA File No.	012528
CSA Class No.	2252-01 + 2258-02
NA Certification	UL Listed, CSA certified
Degree of Protection	IEC: IP20, UL/CSA Type: -

	Inputs	Outputs		Supply voltage	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
	Digital	Relay 10 A (UL)	Transistor					
I/O expansions								
Can be used through easyLink								
	12	6	–	100 - 240 V AC	**EASY618-AC-RE** 212314		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	12	–	8	24 V DC	**EASY620-DC-TE** 212313			
	12	6	–	24 V DC	**EASY618-DC-RE** 232112			Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	–	2	–	24 V DC	**EASY202-RE**1) 232186			
	6	4	–	24 V DC	**EASY410-DC-RE** 114293			NA Certification: Request filed for UL and CSA Degree of Protection: IEC: IP20, UL/CSA Type: -
	6	–	4	24 V DC	**EASY410-DC-TE** 114294			
Coupling module								
Can be used through easyLink								
		For remote connection of a digital I/O expansion up to 30 m.			**EASY200-EASY** 212315		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -

	Inputs		Outputs			Supply voltage	Part no. Article no.	Price See price list	Std. pack
	Digital / Analog	Of which usable as digital	Relay 10 A (UL)	Transistor	Analog				
I/O expansions									
Can be used through easyLink									
	1 / 2[2]	2	–	2	1	24 V DC	**EASY406-DC-ME** 114295		1 off
	1 / 6[3]	2	–	2	2	24 V DC	**EASY411-DC-ME** 116567		1 off

Notes

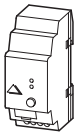
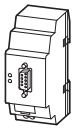
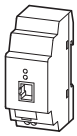
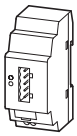
[1] Not for use in combination with basic unit EASY719-DA-... Cannot be used on the EASY200-EASY coupling module

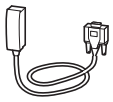
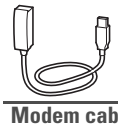
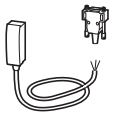
[2] 2 × 0 - 10 V, 2 × 0 - 20 mA, 2 × RTD (2/3-wire connection); any combination
Voltage inputs (0–10 V) can optionally be used as digital inputs

[3] 2 x 0 - 10 V, 2 x 0 - 20 mA, 2 x Pt100 (2/3 wire connection); Voltage inputs (0 –10 V) can optionally be used as digital inputs

Information relevant for export to North America

NA Certification: Request filed for UL and CSA
Degree of Protection: IEC: IP20, UL/CSA Type: -

	Description		Supply voltage	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Bus modules							
Can be used through easyLink							
	AS-Interface	Slave 4 inputs, 4 outputs, 4 parameter bits Addresses available 0 to 31	–	**EASY205-ASI** 221598		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ, NRAQ7 CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	PROFIBUS-DP	Slave Addresses available 1 to 126	24 V DC	**EASY204-DP** 212316			
	CANopen	Addresses available 1 to 127	24 V DC	**EASY221-CO** 233539			
	DeviceNet	Addresses available 0 to 63	24 V DC	**EASY222-DN** 233540			
Ethernet gateway							
	Serial interface easyRelay or MFD-...CP8/CP10... to Ethernet, for connection to easyOPC server, easySoft, or easyCom		24 V DC	**EASY209-SE** 101520		1 off	

	Description	For use with	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Programming software						
	Menu selection in 13 languages Operating systems: Windows 2000 SP4, Windows XP SP3, Windows Vista (32-bit), Windows 7 (32-bit)		**EASY-SOFT-PRO** 266040		1 off	
Programming cable						
	SUB-D, 9 pole, serial, 2 m		**EASY800-PC-CAB** 256277		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2258-02 NA Certification: UL Listed, CSA certified
	USB, 2 m		**EASY800-USB-CAB** 106408		1 off	
Modem cable						
	Configurable modem, printer and programming cable, possible transfer rate 56 kbaud, 9 pole Sub-D plug (plug + socket for self connection)		**EASY800-MO-CAB** 286079		1 off	
Connecting cables						

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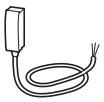
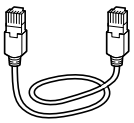
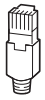
	Description	For use with	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
	For connecting the MFD (-AC)-CP4 or EASY209-SE with easy500/easy700, 5 m, can be cut to length		**MFD-CP4-500-CAB5** 280886		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	For connecting the MFD (-AC)-CP4 or EASY209-SE with easy800/MFD-..-CP8/CP10..., 5 m, can be cut to length		**MFD-CP4-800-CAB5** 280887		1 off	
Memory cards						
	256-kB module	MFD-…-CP8	**EASY-M-256K** 256279		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	512-kB module	MFD-CP10...	**EASY-M-512K**[1] 134969		1 off	
Manuals						
	German	MFD-Titan	**AWB2528-1480D** 267187		1 off	
	English	MFD-Titan	**AWB2528-1480GB** 267188		1 off	
Network connection cables						
	Length: 0.3 m	easyNet	**EASY-NT-30** 256283		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	Length: 0.8 m	easyNet	**EASY-NT-80** 256284		1 off	
	Length: 1.5 m	easyNet	**EASY-NT-150** 256285		1 off	
Bus termination resistor						
	8 pole, RJ45, 124 Ω Connection to PIN 1 and PIN 2	easyNet	**EASY-NT-R** 256281		2 off	
Data cable						
	4 x 0.14 mm², twisted pair, AWG 26 Length: 100 m	easyNet	**EASY-NT-CAB** 256286		1 off	UL File No.: E135462 UL CCN: NRAQ NA Certification: UL Listed Degree of Protection: IEC: IP 20, UL/CSA Type: -

Note [1] For availability please inquire

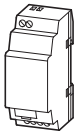
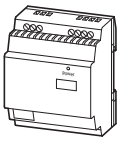
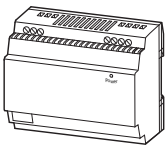
	Description	For use with	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
Bus connector plug						
	8 pole, RJ45	easyNet	**EASY-NT-RJ45** 256280		10 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
Crimping tool						
–	For RJ45 plug	EASY-NT-CAB EASY-NT-RJ45	**EASY-RJ45-TOOL** 256282		1 off	

Point-to-point connection cable

	Description	For use with	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
	Serial interface for connecting MFD-…-CP8/CP10... to easy800 or MFD-…-CP8/CP10..., 5 m, can be cut to length	easy800 MFD-…-CP8	**MFD-800-CAB5** 266041		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -

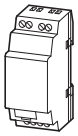
Switched-mode power supply units

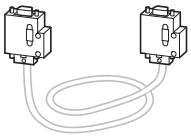
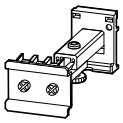
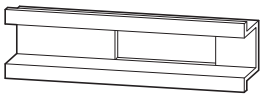
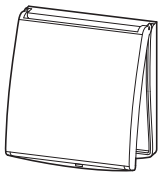
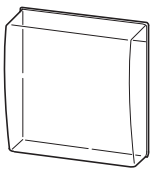
Primary-switched mode, stabilized

	Description	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
	Rated input voltage: 50/60 Hz: 100 - 240 V Rated output voltage: 24 V/12 V DC Rated output current: 0.35 A/20 mA	**EASY200-POW** 229424		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 1.25 A	**EASY400-POW** 212319		1 off	
		EASY430-POW 110940		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 107.1-01; CE marking UL File No.: E300415 UL CCN: NMTR, NMTR7 CSA File No.: UL report applies to both US and Canada CSA Class No.: 3211-87, 3211-07 NA Certification: UL Listed, certified by UL for use in Canada Degree of Protection: IEC: IP20, UL/CSA Type: -
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 2.5 A	**EASY500-POW** 110941		1 off	
	Rated input voltage: 50/60 Hz: 100 - 240 V AC Rated output voltage (residual ripple): 24 V DC (± 3 %) Rated output current: 4.2 A	**EASY600-POW** 262399		1 off	

Ballast

To increase the AC input current

	Description	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
	6 channels, cable length up to 100 m	**EASY256-HCI** 231168		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP20, UL/CSA Type: -

	Description	For use with	Part no. Article no.	Price See price list	Std. pack	Information relevant for export to North America
PROFIBUS-DP data cable						
	Twisted pair, without plug, 2-core, 2 x 0.64 mm² (only suitable for fixed wiring) 100 m		**ZB4-900-KB1** 206983		100 m	
PROFIBUS-DP bus connector plug						
	Pins, 9 pole Cable entry, angled 90°		**ZB4-209-DS2** 206982		1 off	
	Metallised insulated housing Maximum transfer rate 12 MBit/s Integrated switch (accessible from the outside) for the bus terminating resistors Terminal block for two cable entries, with straight or 90° angled cable entry, as required		**ZB4-209-DS3** 217820		1 off	
Connection plug						
	Bus connector plug between base unit and expansion unit/bus module		**EASY-LINK-DS** 221607		1 off	UL/CSA certification not required
Fixing bracket For screw fixing to mounting plate						
	3 fixing brackets per easy400, 500, 600, 700, 800, EC4P, ES4P 2 fixing brackets per easy200 3 fixing brackets per MFD...-CP8/CP10…		**ZB4-101-GF1** 061360		9 off	UL/CSA certification not required
Telescopic clip						
	With 35mm top-hat rail to IEC/EN 60715 for mounting depth compensation when rear mounting in CI-K… enclosures and cabinets. Stepless adjustment via scale from 75 – 115 mm. Screw and snap fastening		**M22-TA** 226161		1 off	Product Standards: IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94-91; CE marking UL File No.: E29184 UL CCN: NKCR CSA File No.: 012528 CSA Class No.: 3211-03 NA Certification: UL Listed, CSA certified
Mounting rail to IEC/EN 60715 Mounting rail with cutout specifically for MFD...-CP8/CP10… for fixing easy expansion units (2 space units) Length: 142.5 mm						
		easy200	**MFD-TS-144** 274090		1 off	UL/CSA certification not required
Protective cover						
	Transparent Protection against accidental actuation sealable Application without front frames	MFD-80…	**MFD-XS-80** 265259		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified
Protective diaphragm						
	Transparent version for harsh environmental conditions and application in the food industry For increasing the degree of protection to NEMA 4X for MFD-80-B	MFD-80…	**MFD-XM-80** 265258		1 off	Product Standards: IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking UL File No.: E135462 UL CCN: NRAQ CSA File No.: 012528 CSA Class No.: 2252-01 + 2258-02 NA Certification: UL Listed, CSA certified Degree of Protection: IEC: IP65, UL/CSA Type 4X

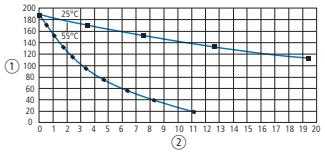
Technical data

			EASY200-EASY EASY202-RE	EASY4…-DC-…E EASY512-…	EASY6... EASY7…	EASY8..-…
General						
Standards			EN 55011, EN 55022, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27			
Dimensions (W x H x D)		mm	35.5 x 90 x 58 (2 space units)	71.5 x 90 x 58 (4 space units)	107.5 x 90 x 58 (6 space units)	107.5 x 90 x 72 (6 space units)
Weight		kg	0.07	0.2	0.3	0.3
Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories).			
Terminal capacity						
Solid		mm^2	0.2 - 4 (AWG 22 - 12)			
Flexible with ferrule		mm^2	0.2 - 2.5 (AWG 22 - 12)			
Flat-blade screwdriver		mm	3.5 x 0.8			
Max. tightening torque		Nm	0.6			
Ambient climatic conditions						
Operating ambient temperature		°C	-25…55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2			
Condensation			Prevent condensation by means of suitable measures			
LCD display (clearly legible)		°C	0 - 55	0 - 55	0 - 55	0 - 55
Storage		°C	-40 - 70	-40 - 70	-40 - 70	-40 - 70
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95
Air pressure (in operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Ambient mechanical conditions						
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20	IP20
Vibrations (IEC/EN 60068-2-6)						
	Constant amplitude 0.15 mm	Hz	10 - 57	10 - 57	10 - 57	10 - 57
	Constant acceleration, 2 g	Hz	57 - 150	57 - 150	57 - 150	57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Shocks	18	18	18	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1	1	1	1
Mounting position			Vertical or horizontal			
Electromagnetic compatibility (EMC)						
Overvoltage category/pollution degree			II/2	II/2	II/2	II/2
Electrostatic discharge (ESD), to IEC EN 61000-4-2						
	Air discharge	kV	8	8	8	8
	Contact discharge	kV	6	6	6	6
Electromagnetic fields (RFI), to IEC EN 61000-4-2		V/m	10	10	10	10
Radio interference suppression			EN 55011 Class B, EN 55022 Class B			
Burst to IEC/EN 61000-4-4						
	Supply cables	kV	2	2	2	2
	Signal cables	kV	2	2	2	2
Power pulses (surge), to IEC/EN 61000-4-5		kV	2 (supply cables, symmetrical, EASY…AC)			
Power pulses (surge), to IEC/EN 61000-4-5		kV	0.5 (supply cables, symmetrical, EASY…DC)			
Radiated RFI, to IEC/EN 61000-4-6		V	10	10	10	10
Insulation resistance						
Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142			
Insulation resistance			EN 50178	EN 50178	EN 50178	EN 50178
Back-up/accuracy of the real-time clock						
Back-up time			–	– [1]	– [1]	[1]
Accuracy of the real-time clock at 55 °C		s/day	–	– Normally ± 5 (± 0.5 h/Year)	– Normally ± 5 (± 0.5 h/Year)	Normally ± 5 (± 0.5 h/Year)
Repetition accuracy of timing relays						
Accuracy of timing relay (of value)		%	–	– ± 1	± 0.02	± 0.02
Resolution	Range "S"	ms	–	– 10	10	5
	Range "M:S"	s	–	– 1	1	1
	Range "H:M"	min	–	– 1		
Retentive memory						
Write cycles of the retentive memory (minimum)			–	– 1000000 (10^6)	1000000 (10^6)	10000000 (10^{10}) (read/write cycles)

Notes

For additional technical data EASY5… and EASY7… → AWB2528-1508D, EASY8… → AWB2528-1423D

1)



① Back-up time (hours)
② Service life (years)

			EASY512-DA-...	EASY719-DA-...
Power supply				
Rated operational voltage	U_e	V	12 DC (-15/+30%)	12 DC (-15/+30%)
Permissible range		V DC	10.2…15.6	10.2…15.6
Ripple		%	≤ 5	≤ 5
Input current				
At rated voltage		mA	Normally 140	Normally 200
Voltage dips (IEC/EN 61131-2)		ms	10	10
Heat dissipation		W	Normally 2	Normally 3.5
Digital inputs 12 V DC				
Number			8	12
Inputs can be used as analog inputs			2 (I7, I8)	4 (I7, I8, I11, I12)
Status display			LCD display (if provided)	LCD display (if provided)
Potential isolation				
From power supply			No	No
Between digital inputs			No	No
From the outputs			Yes	Yes
Rated operating voltage	U_e	V DC	12	12
On signal "0"	U_e	V DC	4 (I1 - I8)	4 (I1 - I12)
On signal "1"	U_e	V DC	8 (I1 - I8)	8 (I1 - I12)
Input current on signal "1"				
I1 to I6		mA	3.3 (at 12 V DC)	3.3 (at 12 V DC)
I7, I8, I11, I12		mA	1.1 (at 12 V DC)	1.1 (At 12 V DC)
I9 to I10		mA	–	3.3 (at 12 V DC)
Delay time from 0 to 1				
Debounce ON		ms	20	20
Debounce OFF		ms	Normally 0.3 (I1 - I6), 0.35 (I7, I8)	Normally 0.3 (I1 - I6, I9, I10), 0.35 (I7, I8, I11, I12)
Delay time from 1 to 0				
Debounce ON		ms	20	20
Debounce OFF		ms	Normally 0.3 (I1 - I6), 0.15 (I7, I8)	Normally 0.4 (I1 - I6, I9, I10), 0.35 (I7, I8, I11, I12)
Cable length (unshielded)		m	100	100
Frequency counters			2 (I3, I4)	2 (I3, I4)
High-speed counter inputs			2 (I1, I2)	2 (I1, I2)
Maximum counter frequency		kHz	< 1	< 1
Pulse shape			Square	Square
Cable length shielded		m	< 30	< 30
Analog inputs				
Number			2 (I7, I8)	4 (I7, I8, I11, I12)
Potential isolation				
From power supply			No	No
From the digital inputs			No	No
From the outputs			Yes	Yes
Between the inputs			No	No
Input type			DC voltage	DC voltage
Signal range		V DC	0 - 10	0 - 10
Resolution, analog		V	0.01	0.01
Resolution, digital		V	0.01	0.01
Resolution		Bit	10 (value 1 - 1023)	10 (value 0 - 1023)
Input impedance		kΩ	11.2	11.2
Accuracy of actual value				
Two EASY devices		%	± 3	± 3
Within a single device		%	± 2, (I7, I8, I11, I12) ± 0.12 V	± 2, (I7, I8, I11, I12) ± 0.12 V
Conversion time analog/digital		ms	Input delay ON: 20; Input delay OFF: each cycle time	Input delay ON: 20; Input delay OFF: each cycle time
Input current		mA	< 1	< 1
Cable length shielded		m	< 30	< 30

Relay outputs → See technical data, relay outputs

Notes For additional Technical Data EASY5… and EASY7… → AWB2528-1508D, EASY8… → AWB2528-1423D

			EASY512-AB-...	EASY719-AB-...
Power supply				
Rated operational voltage	U_e	V	24 AC	24 AC
Permissible range		V AC	20.4…26.4	20.4…26.4
Frequency		Hz	50/60 (± 5%)	50/60 (± 5%)
Input current				
At 24 V AC 50/60 Hz		mA	Normally 200	Normally 300
Voltage dips (IEC/EN 61131-2)		ms	20	20
Heat dissipation				
At 24 V AC		VA	Normally 5	Normally 7
Digital inputs 24 V DC				
Number			8	12
Inputs can be used as analog inputs			2 (I7, I8)	4 (I7, I8, I11, I12)
Status display			LCD display (if provided)	LCD display (if provided)
Potential isolation				
From power supply			No	No
Between digital inputs			No	No
From the outputs			Yes	Yes
Rated operational voltage	U_e	V	24 AC	24 AC
Rated voltage L (sinusoidal)				
On signal "0"		V AC	0 - 6	0 - 6
On signal "1"	U_e	V	(I7, I8) > 7 AC, > 9.5 DC (I1 - I6) 14 - 26.4 AC	(I7, I8, I11, I12) > 7 AC, > 9.5 DC (I1 - I6, I9, I10) 14 - 26.4 AC
Rated frequency		Hz	50 - 60	50 - 60
Input current on signal "1"				
I1 to I6		mA	4 (at 24 V AC, 50 Hz)	4 (at 24 V AC, 50 Hz)
I7, I8		mA	2 (at 24 V AC, 50 Hz) 2 (at 24 V DC)	2 (at 24 V AC, 50 Hz) 2 (at 24 V DC)
I9, I10		mA	–	4 (At 24 V AC, 50 Hz)
I11, I12		mA	–	2 (at 24 V AC, 50 Hz) 2 (at 24 V DC)
Delay time (0 - 1/1 - 0) I1 - I12				
Debounce ON, 50/60 Hz		ms	80/66⅔	80/66⅔
Debounce OFF, 50/60 Hz		ms	20/16⅔	20/16⅔
Max. admissible cable length (per input)				
Maximum remote installation distance		m	40	40
I9, I10		m	–	Normally 40
Analog inputs				
Number			2 (I7, I8)	4 (I7, I8, I11, I12)
Potential isolation				
From power supply			No	No
From the digital inputs			No	No
From the outputs			Yes	Yes
Between the inputs			No	No
Input type			DC voltage	DC voltage
Signal range		V DC	0 - 10	0 - 10
Resolution, analog		V	0.01	0.01
Resolution, digital		V	0.01	0.01
Resolution		Bit	10 (value 1 - 1023)	10 (value 0 - 1023)
Input impedance		kΩ	11.2	11.2
Accuracy of actual value				
Two EASY devices		%	± 3	± 3
Within a single device		%	± 2, (I7, I8) ± 0.12 V	± 2, (I7, I8, I11, I12) ± 0.12 V
Conversion time analog/digital		ms	Input delay ON: 20; Input delay OFF: each cycle time	Input delay ON: 20; Input delay OFF: each cycle time
Input current		mA	< 1	< 1
Cable length shielded		m	< 30	< 30
Relay outputs			→ See technical data, relay outputs	

Notes For additional technical data EASY5… and EASY7… → AWB2528-1508D, EASY8… → AWB2528-1423D

			EASY410-DC-RE EASY410-DC-TE	EASY512-DC-...	EASY6..-DC-.E	EASY7..-DC-...	EASY7..-DC-...	EASY8..-DC-...
Power supply								
Rated operational voltage	U_e	V	24 DC (-15/+20%)					
Permissible range		V DC	20.4…28.8	20.4…28.8	20.4…28.8	20.4…28.8	20.4…28.8	20.4…28.8
Ripple		%	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Input current								
At rated voltage		mA	Normally 140	Normally 80	Normally 140	Normally 140	Normally 140	Normally 140
Voltage dips (IEC/EN 61131-2)		ms	10	10	10	10	10	10
Heat dissipation		W	Normally 3.5	Normally 2	Normally 3.4	Normally 3.5	Normally 3.5	Normally 3.4
Digital inputs 24 V DC								
Number			6	8	12	12	12	12
Inputs can be used as analog inputs			-	2 (I7, I8)	–	4 (I7, I8, I11, I12)	4 (I7, I8, I11, I12)	4 (I7, I8, I11, I12)
Status display			LCD display (if provided)					
Potential isolation								
From power supply			No	No	No	No	No	No
Between digital inputs			No	No	No	No	No	No
From the outputs			Yes	Yes	Yes	Yes	Yes	Yes
From PC interface, memory card, easyNet, easyLink			–	–	–	–	–	Yes
Rated operating voltage	U_e	V DC	24	24	24	24	24	24
On signal "0"	U_e	V DC	< 5 (R1 - R6)	< 5 (I1 - I8)	< 5 (I1 - I12, R1 - R12)	< 5 (I1 - I12, R1 - R12)	< 5 (I1 - I12, R1 - R12)	< 5 (I1 - I6, I9, I10) < 8 (I7, I8, I11, I12)
On signal "1"	U_e	V DC	> 15.0 (R1 - R6)	> 15 (I1 - I6), > 8 (I7, I8)	–	> 15.0 (I1 - I6, I9, I10), > 8.0 (I7, I8, I11, I12)	> 15.0 (I1 - I6, I9, I10), > 8.0 (I7, I8, I11, I12)	> 15.0 (I1 - I6, I9, I10), > 8.0 (I7, I8, I11, I12)
Input current on signal "1"								
R1 - R6 (R12)		mA	3.3 (at 24 V DC)	–	3.3 (at 24 V DC)	–	–	–
I1 to I6		mA	–	3.3 (at 24 V DC)	–	3.3 (at 24 V DC)	3.3 (at 24 V DC)	3.3 (at 24 V DC)
I7, I8		mA	–	2.2 (at 24 V DC)	–	2.2 (at 24 V DC)	2.2 (at 24 V DC)	2.2 (at 24 V DC)
I9, I10		mA	–	–	–	3.3 (at 24 V DC)	3.3 (at 24 V DC)	3.3 (at 24 V DC)
I11, I12		mA	–	–	–	2.2 (at 24 V DC)	2.2 (at 24 V DC)	2.2 (at 24 V DC)
Delay time from 0 to 1								
Debounce ON		ms	20	20	20	20	20	20
Debounce OFF		ms	Normally 0.25 (R1 - R6)	Normally 0.25 (I1 - I8)	Normally 0.25 (R1 - R12)	Normally 0.25 (I1 - I12)	Normally 0.25 (I1 - I12)	Normally 0.1 (I1 - I4), normally 0.25 (I5 - I12)
Delay time from 1 to 0								
Debounce ON		ms	20	20	20	20	20	20
Debounce OFF		ms	–	–	–	–	–	Normally 0.1 (I1 - I4), normally 0.4 (I5, I6, I9, I12), normally 0.2 (I7, I8, I11, I12)
Cable length (unshielded)		m	100	100	100	100	100	100
Frequency counters								
Number			–	2 (I3, I4)	–	2 (I3, I4)	2 (I3, I4)	4 (I1, I2, I3, I4)
Counter frequency		kHz	–	< 1	–	< 1	< 1	< 5
Pulse shape			–	Square	–	Square	Square	Square
Incremental counters								
Number			–	–	–	–	–	2 (I1 + I2, I3 + I4)
Counter frequency		kHz	–	≦ 1	–	≦ 1	≦ 1	≦ 3
Pulse shape			–	–	–	–	–	Square
Counter inputs I1 and I2, I3 and I4			–	–	–	–	–	2
Signal offset			–	–	–	–	–	90°
Mark-to-space ratio			–	–	–	–	–	1:1
High-speed counter inputs								
Number			–	2 (I1, I2)	–	2 (I1, I2)	2 (I1, I2)	4 (I1, I2, I3, I4)
Cable length, shielded		m	–	< 20	–	< 20	< 20	< 20
Counter frequency		kHz	–	< 1	–	< 1	< 1	< 5
Pulse shape			–	Square	–	Square	Square	Square
Cable length (unshielded)		m	–	100	100	100	100	100
Relay outputs			→ See technical data, relay outputs					
Transistor outputs			→ See technical data, transistor outputs					
Notes			For additional technical data EASY5… and EASY7… → AWB2528-1508D, EASY8… → AWB2528-1423D					

		EASY406…-DC-ME	EASY411-DC-ME	EASY512-DC-…	EASY7..-DC-…	EASY8..-DC-…
Analog inputs						
Number		2	6	2 (I7, I8)	4 (I7, I8, I11, I12)	4 (I7, I8, I11, I12)
Potential isolation						
From power supply		No	No	No	No	No
From the digital inputs		No	No	No	No	No
From the outputs		No	No	Yes	Yes	Yes
From PC interface, memory card, easyNet, easyLink		Yes	Yes	No	No	Yes
Input type		DC voltage	DC voltage	DC voltage	DC voltage	DC voltage
Signal range	V DC	0 - 10	0 - 10	0 - 10	0 - 10	0 - 10
Resolution, analog	V	–	–	0.01	0.01	0.01
Resolution, digital	V	–	–	0.01	0.01	0.01
Resolution	Bit	10 (value 0 - 1023)				
Input impedance	kΩ	11.2	11.2	11.2	11.2	11.2
Accuracy of actual value						
Two EASY devices	%	± 3	± 3	± 3	± 3	± 3
Within a single device	%	< ± 3 %	< ± 3 %	± 2, (I7, I8, I11, I12) ± 0.12 V	± 2, (I7, I8, I11, I12) ± 0.12 V	± 2, (I7, I8, I11, I12) ± 0.12 V
Conversion time analog/digital	ms	800	800	Input delay ON: 20; input delay OFF: every cycle time		Each CPU cycle
Input current	mA	< 1	< 1	< 1	< 1	< 1
Cable length shielded	m	< 10	< 10	< 30	< 30	< 30
Analog outputs						
Number		1	2	–	–	1
Potential isolation						
From power supply		No	No	No	No	No
From the digital inputs		No	No	No	No	No
From the digital outputs		No	No	No	No	Yes
easyLink		Yes	Yes	No	No	Yes
Output type		DC voltage	DC voltage	–	–	DC voltage
Signal range						
Signal range min. voltage	V	0	0	–	–	0
Signal range max. voltage	V	10	10	–	–	10
Max. output current	A	0.01	0.01	–	–	0.01
Load resistance		1 kΩ	1 kΩ	–	–	1 kΩ
Overload and short-circuit protection		Yes	Yes	–	–	Yes
Resolution, analog	V DC	0.01	0.01	–	–	0.01
Resolution, digital	Bit	10 (value 0 - 1023)	10 (value 0 - 1023)	–	–	10, (value: 0 – 1023)
Recovery time	µs	–	–	–	–	100
Accuracy						
-25 °C - 55 °C	%	2	2	–	–	2
25C	%	1	1	–	–	1
Conversion time analog/digital	ms	200	200	Input delay ON: 20; input delay OFF: every cycle time		Each CPU cycle
Network easyNet						
Stations	Number	–	–	–	–	Max. 8
Data transfer rate/distance		–	–	–	–	1000 Kbit/s, 6 m 500 Kbit/s, 25 m 250 Kbit/s, 60 m 125 Kbit/s, 125 m 50 Kbit/s, 300 m 20 Kbit/s, 700 m 10 Kbit/s, 1000 m
Potential isolation						
Of the 2 additional inputs		–	–	–	–	Yes
Potential isolation		–	–	–	–	Yes
Electrical isolation between inputs and internal power supply		–	–	–	–	Yes
Potential isolation		–	–	–	–	Yes
Bus termination (first and last station)		–	–	–	–	Yes
Terminal type		–	–	–	–	RJ45, 8 pole

Notes For additional technical data EASY5… and EASY7… → AWB2528-1508D, EASY8… → AWB2528-1423D

			EASY512-AC-R..	EASY618-AC-RE	EASY719-AC-RC.	EASY819-AC-RC.
Power supply						
Rated operational voltage	U_e	V	100/110/115/120/230/240 AC (+10/-15 %)			
Permissible range		V AC	85…264	85…264	85…264	85…264
Frequency		Hz	50/60 (± 5%)	50/60 (± 5%)	50/60 (± 5%)	50/60 (± 5%)
Input current						
At 115/120 V AC 60 Hz		mA	Normally 40	Normally 70	Normally 70	Normally 70
At 230/240 V AC 50 Hz		mA	Normally 20	Normally 35	Normally 35	Normally 35
Voltage dips (IEC/EN 61131-2)		ms	20	20	20	20
Heat dissipation						
At 115/120 V AC		VA	Normally 5	Normally 10	Normally 10	Normally 10
At 115/230 V AC		VA	Normally 5	Normally 10	Normally 10	Normally 10
Digital inputs 115/230 V AC						
Number			8	12	12	12
Status display			LCD display (if provided)			
Potential isolation						
From power supply			No	No	No	No
Between digital inputs			No	No	No	No
From the outputs			Yes	Yes	Yes	Yes
Potential isolation			–	–	–	Yes
Rated voltage L (sinusoidal)						
On signal "0"		V AC	0 - 40	0 - 40	0 - 40	0 - 40
On signal "1"		V AC	79 - 264	79 - 264	79 - 264	79 - 264
Rated frequency		Hz	50 - 60	50 - 60	50 - 60	50 - 60
Input current on signal "1"						
R1 to R12		mA		12 x 0.25 (at 115 V AC, 60 Hz)12 x 0.5 (at 230 V AC, 50 Hz)		
I1 to I6		mA	6 x 0.25 (at 115 V AC, 60 Hz)6 x 0.5 (at 230 V AC, 50 Hz)		6 x 0.25 (at 115 V AC, 60 Hz)6 x 0.5 (at 230 V AC, 50 Hz)	6 x 0.25 (at 115 V AC, 60 Hz)6 x 0.5 (at 230 V AC, 50 Hz)
I7, I8		mA	2 x 4 (at 115 V AC, 60 Hz)2 x 6 (at 230 V AC, 50 Hz)		2 x 4 (at 115 V AC, 60 Hz)2 x 6 (at 230 V AC, 50 Hz)	2 x 4 (at 115 V AC, 60 Hz)2 x 6 (at 230 V AC, 50 Hz)
I9 to I12		mA			4 x 0.25 (at 115 V AC, 60 Hz)4 x 0.5 (at 230 V AC, 50 Hz)	4 x 0.25 (at 115 V AC, 60 Hz)4 x 0.5 (at 230 V AC, 50 Hz)
Delay time						
Delay time (0 - 1/1 - 0) I1 - I6, I9 - I12, R1 - R12						
Debounce ON, 50/60 Hz		ms	80/66⅔	80/66⅔	80/66⅔	80/66⅔
Debounce OFF, 50/60 Hz		ms	20/16⅔	20/16⅔	20/16⅔	20/16⅔
Delay time I7, I8 (1 - 0)						
Debounce ON, 50/60 Hz		ms	160/150	80/66⅔	80/66⅔	120/100
Debounce OFF, 50/60 Hz		ms	100/100	20/16⅔	20/16⅔	40/33⅓
Delay time I7, I8 (0 - 1)						
Debounce ON, 50/60 Hz		ms	80/66⅔	80/66⅔	80/66⅔	80/66⅔
Debounce OFF, 50/60 Hz		ms	20/16⅔	20/16⅔	20/16⅔	20/16⅔
Max. admissible cable length (per input)						
R1 to R12		m	–	Normally 40	–	–
I1 to I6		m	Normally 40	Normally 40	Normally 40	Normally 60
I7, I8		m	Normally 100	Normally 100	Normally 100	Normally 100
I9 to I12		m	–	Normally 40	Normally 40	Normally 60
Relay outputs			→ See technical data, relay outputs			

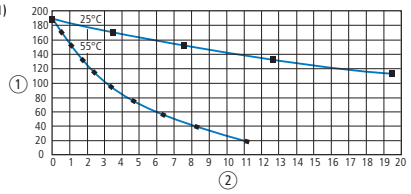
Notes For additional technical data EASY5… and EASY7… → AWB2528-1508D, EASY8… → AWB2528-1423D

			MFD-80..	MFD-CP4...	MFD-AC-CP4.. MFD-AC-CP8..	MFD-CP10.. MFD-CP8..
General						
Standards			EN 61000-6-1/-2/-3/-4, IEC 60068-2-6, IEC 60068-2-27			
Dimensions (W x H x D)		mm	86.5 x 86.5 x 21.5 (with buttons) 86.5 x 86.5 x 20 (without buttons)	75 x 58 x 36.2	107.5 x 90 x 30	107.5 x 90 x 30
Weight		kg	0.13	0.16	0.14	0.14
Mounting			2 x 22.5 mm, display fastened using 2° threaded fixing rings. Wall thickness: without top-hat rail (CPU) 1 – 6 mm with top-hat rail 1 – 4 mm	Plug-fitted to the display fixing shaft	Fitted on the fixing shaft of the display or on top-hat rail according to IEC/EN 60715, 35 mm deep (without display)	Fitted on the fixing shaft of the display or on top-hat rail according to IEC/EN 60715, 35 mm deep (without display)
Terminal capacity						
Solid		mm^2	–	–	0.2/4 (AWG 24 - 12)	0.2/4 (AWG 24 - 12)
Flexible with ferrule		mm^2	–	–	0.2/2.5 (AWG 24 - 12)	0.2/2.5 (AWG 24 - 12)
Flat-blade screwdriver		mm	–	–	3.5 x 0.6	3.5 x 0.6
Max. tightening torque		Nm	–	–	–	–
Ambient climatic conditions						
Operating ambient temperature		°C	-25 - 55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2			
Condensation			Prevent condensation by means of suitable measures			
LCD display (clearly legible)		°C	-5 - 50			
Storage		°C	-40 - 70	-40 - 70	-40 - 70	-40 - 70
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95
Air pressure (in operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Ambient mechanical conditions						
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP65	IP20	IP20	IP20
Vibrations (IEC/EN 60068-2-6)						
Constant amplitude 0.15 mm		Hz	10 - 57	10 - 57	10 - 57	10 - 57
Constant acceleration, 2 g		Hz	57 - 150	57 - 150	57 - 150	57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Shocks	18	18	18	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1	1	1	1
Mounting position			Vertical or horizontal			

			MFD-80..	MFD-CP4...	MFD-AC-CP4.. MFD-AC-CP8..	MFD-CP10.. MFD-CP8..
Electromagnetic compatibility (EMC)						
Overvoltage category/ pollution degree			–	–	–	–
Electrostatic discharge (ESD), to IEC EN 61000-4-2						
Air discharge		kV	8	8	8	8
Contact discharge		kV	6	6	6	6
Electromagnetic fields (RFI), to IEC EN 61000-4-2		V/m	10	10	10	10
Radio interference suppression			EN 55011 Class B, EN 55022 Class B			
Burst to IEC/EN 61000-4-4						
Supply cables		kV	2	2	2	2
Signal cables		kV	2	2	2	2
High-energy pulses (surge) (IEC/EN 61000-4-5, Level 2)						
Supply cables, symmetrical			–	0.5	1	0.5
Radiated RFI, to IEC/EN 61000-4-6		V	10	10	10	10
Insulation resistance						
Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142			
Insulation resistance			EN 50178			
Back-up/accuracy of the real-time clock						
Back-up time			–	–	1)	1)
Accuracy of the real-time clock at 55 °C		s/day	–	–	Normally ±5 s/day (±0.5 h/Year)	Normally ±5 s/day (±0.5 h/Year)
Repetition accuracy of timing relays						
Accuracy of timing relay (of value)		%	–	–	± 0.02	± 0.02
Resolution						
Range "S"		ms	–	–	5	5
Range "M:S"		s	–	–	1	1
Range "H:M"		min	–	–	1	1
Retentive memory						
Write cycles of the retentive memory (minimum)			–	–	10^{10} (read/write cycles)	10^{10} (read/write cycles)

Notes For additional technical data EASY5... and EASY7... → AWB2528-1508D, EASY8... → AWB2528-1423D

1)



① Backup time (hours)
② Service life (years)

			MFD-CP4..	MFD-CP8.. MFD-CP10..	MFD-AC-CP4.. MFD-AC-CP8..
Power supply					
Rated operational voltage	U_e	V	24 DC (-15/+20 %)	24 DC (-15/+20 %)	100/110/115/120//230/240 AC (+10/-15 %)
Permissible range		V AC			85…264
Permissible range		V DC	20.4…28.8	20.4…28.8	
Ripple		%	≤ 5	≤ 5	–
Frequency		Hz	–	–	50/60 (± 5%)
Input current					
At 115/120 V AC 60 Hz		mA	–	–	Normally 90
At 230/240 V AC 50 Hz		mA	–	–	Normally 60
At 24 V DC		mA	Normally 185	Normally 200	–
Voltage dips (IEC/EN 61131-2)		ms	10	10	10
Heat dissipation					
At 115/120 V AC		VA	–	–	Normally 11
At 230/240 V AC		VA	–	–	Normally 15
At 24 V DC		W	1.5	3.4	–
Point-to-point connection					
Stations			1	–	–
Baud rate					
easy500, easy700		MBit/s	9.6 kBaud	–	–
easy800, MFD, EC4P			19.2 kBaud	–	–
Distance		m	Max. 5	Max. 5	Max. 5
Potential isolation					
From power supply			Yes	–	–
From the connected device			Yes	–	–
Terminal type			Spring-loaded terminals	–	–
Power pulses					
Stations		Number	Max. 1	Max. 8	Max. 8
Data transfer rate/distance			–	1000 Kbit/s, 6 m 500 Kbit/s, 25 m 250 Kbit/s, 40 m 125 Kbit/s, 125 m 50 Kbit/s, 300 m 20 Kbit/s, 700 m 10 Kbit/s, 1000 m	1000 Kbit/s, 6 m 500 Kbit/s, 25 m 250 Kbit/s, 40 m 125 Kbit/s, 125 m 50 Kbit/s, 300 m 20 Kbit/s, 700 m 10 Kbit/s, 1000 m
Potential isolation					
From power supply			–	Yes	Yes
From the inputs			–	–	Yes
From the outputs			–	Yes	Yes
From PC interface, memory card, easyNet, easyLink			–	Yes	Yes
Bus termination (first and last station)			–	Yes	Yes
Terminal type			–	RJ45, 8 pole	RJ45, 8 pole

			MFD-R16 MFD-RA17	MFD-AC-R16	MFD-T16 MFD-TA17	MFD-T.P..
General						
Standards			EN 61000-6-1/-2/-3/-4, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27	EN 61000-6-1/-2/-3/-4, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27	EN 61000-6-1/-2/-3/-4, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27	EN 61000-6-1/-2/-3/-4, IEC 60068-2-6, IEC 60068-2-27
Dimensions (W x H x D)		mm	89 x 90 x 44	89 x 90 x 44	89 x 90 x 25 (built-in)	89 x 90 x 25 (built-in)
Weight		kg	0.15	0.15	0.14	0.14
Mounting			Fitted into the power supply unit.			
Terminal capacity						
Solid		mm^2	0.2/4 (AWG 24 - 12)	0.2/4 (AWG 24 - 12)	0.2/4 (AWG 24 - 12)	0.2/4 (AWG 24 - 12)
Flexible with ferrule		mm^2	0.2/2.5 (AWG 24 - 12)	0.2/2.5 (AWG 24 - 12)	0.2/2.5 (AWG 24 - 12)	0.2/2.5 (AWG 24 - 12)
Flat-blade screwdriver		mm	3.5 x 0.6	3.5 x 0.6	3.5 x 0.6	3.5 x 0.6
Power supply						
Solid		mm^2	–	–	–	–
Flexible with ferrule		mm^2	–	–	–	–
Flat-blade screwdriver		mm	–	–	–	–
Data cable						
Solid		mm^2	0.08/2.5 (AWG 28 - 12)	0.08/2.5 (AWG 28 - 12)	0.08/2.5 (AWG 28 - 12)	0.08/2.5 (AWG 28 - 12)
Flexible with ferrule		mm^2	0.08/1.5 (AWG 28 - 12)	0.08/1.5 (AWG 28 - 12)	0.08/1.5 (AWG 28 - 12)	0.08/1.5 (AWG 28 - 12)
Ambient climatic conditions						
Operating ambient temperature		°C	-25 - 55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2			
Condensation			Prevent condensation by means of suitable measures			
LCD display (clearly legible)		°C				
Storage		°C	-40 - 70	-40 - 70	-40 - 70	-40 - 70
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95
Air pressure (in operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Ambient mechanical conditions						
Pollution degree			2	2	2	2
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20	IP20
Vibrations (IEC/EN 60068-2-6)						
Constant amplitude 0.15 mm		Hz	10 - 57	10 - 57	10 - 57	10 - 57
Constant acceleration, 2 g		Hz	57 - 150	57 - 150	57 - 150	57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Shocks	18	18	18	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1	1	1	1
Mounting position			Vertical or horizontal			
Electromagnetic compatibility (EMC)						
Electrostatic discharge (ESD), to IEC EN 61000-4-2						
Air discharge		kV	8	8	8	8
Contact discharge		kV	6	6	6	6
Electromagnetic fields (RFI), to IEC EN 61000-4-2		V/m	10	10	10	10
Radio interference suppression			EN 55011 Class B, EN 55022 Class B			
Burst to IEC/EN 61000-4-4						
Supply cables		kV	2	2	2	2
Signal cables		kV	2	2	2	2
Power pulses (surge) (IEC/EN 61000-4-5)		kV	2 (supply cables, symmetrical)	2 (supply cables, symmetrical)	2 (supply cables, symmetrical)	2 (supply cables symmetrical, MFD-AC-CP8..)
Power pulses (surge), to IEC/EN 61000-4-5		kV	0.5 (supply cables, symmetrical)	0.5 (supply cables, symmetrical)	0.5 (supply cables, symmetrical)	0.5 (supply cables, symmetrical, MFD-CP8..)
Radiated RFI, to IEC/EN 61000-4-6		V	10	10	10	10
Insulation resistance						
Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142			
Insulation resistance			EN 50178			

			MFD-R16 MFD-RA17	MFD-T16 MFD-TA17	MFD-T...P...	MFD-AC-R16
Digital inputs 24 V DC						
Number			12	12	6	
Inputs can be used as analog inputs			4 (I7, I8, I11, I12)	4 (I7, I8, I11, I12)	2 (I11, I12)	
Potential isolation						
From power supply			No	No	No	
Between digital inputs			No	No	No	
From the outputs			Yes	Yes	Yes	
From PC interface, memory card, easy NET, easyLink			Yes	Yes	Yes	
Rated operating voltage	U_e	V DC	24	24	24	
On signal "0"	U_e	V DC	< 5.0 (I1 - I6, I9 - I10), < 8 (I7, I8, I11, I12)	< 5.0 (I1 - I6, I9 - I10), < 8 (I7, I8, I11, I12)	< 5.0 (I1 - I4), < 8.0 (I11, I12)	
On signal "1"	U_e	V DC	> 15.0 (I1 - I6, I9 - I10), > 8.0 (I7, I8, I11, I12)	> 15.0 (I1 - I6, I9 - I10), > 8.0 (I7, I8, I11, I12)	>15.0 (I1 - I4), > 8.0 (I11, I12)	
Input current on signal "1"						
I1 to I6		mA	3.3 (at 24 V DC)	3.3 (at 24 V DC)	–	
I1 to I4		mA	–	–	3.3 (at 24 V DC)	
I7, I8		mA	2.2 (at 24 V DC)	2.2 (at 24 V DC)	–	
I9, I10		mA	3.3 (at 24 V DC)	3.3 (at 24 V DC)	–	
I11, I12		mA	2.2 (at 24 V DC)	2.2 (at 24 V DC)	2.2 (at 24 V DC)	
Delay time from 0 to 1						
Debounce ON		ms	20	20	20	
Debounce OFF		ms	Normally 0.1 (I1 - I4), normally 0.25 (I5 - I12)			
Delay time from 1 to 0						
Debounce ON		ms	20	20	20	
Debounce OFF		ms	Normally 0.1 (I1 - I4), normally 0.4 (I5, I6, I9, I10), normally 0.2 (I7, I8, I11, I12)	Normally 0.1 (I1 - I4), normally 0.4 (I5, I6, I9, I10), normally 0.2 (I7, I8, I11, I12)	Normally 0.1 (I1 - I4), normally 0.2 (I11, I12)	
Cable length (unshielded)		m	100	100	100	
Frequency counters						
Number			4 (I1, I2, I3, I4)	4 (I1, I2, I3, I4)	4 (I1, I2, I3, I4)	
Counter frequency		kHz	< 3	< 3	< 3	
Pulse shape			Square	Square	Square	
Incremental counters						
Number			2 (I1 + I2, I3 + I4)	2 (I1 + I2, I3 + I4)	2 (I1 + I2, I3 + I4)	
Counter frequency		kHz	≦ 3	≦ 3	≦ 3	
Pulse shape			Square	Square	Square	
Signal offset			90°	90°	90°	
High-speed counter inputs						
Number			4 (I1, I2, I3, I4)	4 (I1, I2, I3, I4)	4 (I1, I2, I3, I4)	
Counter frequency		kHz	< 3	< 3	< 3	
Pulse shape			Square	Square	Square	
Cable length, shielded		m	< 20	< 20	< 20	
Digital inputs 115/230 V AC						
Number						12
Status display						LCD display (if provided)
Potential isolation						
From power supply						No
Between digital inputs						No
From the outputs						Yes
From PC interface, memory card, easyNet, easyLink						Yes
Rated voltage L (sinusoidal)						
On signal "0"		V AC				0 - 40
On signal "1"		V AC				79 - 264
Rated frequency		Hz				50 - 60
Input current on signal "1"						
I1 to I12		mA				12 x 0.2 (at 115 V AC, 60 Hz), 12 x 0.5 (at 230 V AC, 50 Hz)
Delay time						
Delay time (0 - 1/1 - 0) I1 - I12, 50/60 Hz						10/100
Max. admissible cable length (per input)						
I1 to I12		m				Normally 60

		MFD-R... MFD-T...			MFD-RA17 MFD-TA17	MFD-TAP
Analog inputs			**Analog outputs**			
Number		4 (I7, I8, I11, I12) 2 (I11, I12) for MFD-T(A)P	Number		1	1
Potential isolation			Potential isolation			
From power supply		No	From power supply		No	No
From the digital inputs		No	From the digital inputs		No	No
From the outputs		Yes	From the digital outputs		Yes	Yes
From PC interface, memory card, easyNet, easyLink		Yes	From PC interface, memory card, easyNet, easyLink		Yes	Yes
Input type		DC voltage	Output type		DC voltage	DC voltage
Signal range	V DC	0 - 10	Signal range	V DC	0 - 10	0 - 10
Resolution, analog	V	0.01	Max. output current	A	0.01	0.01
Resolution, digital	V	0.01	Load resistance	kΩ	1	1
Resolution	Bit	10 (value 0 - 1023)	Overload and short-circuit protection		Yes	Yes
Input impedance	kΩ	11.2	Resolution, analog	V DC	0.01	0.01
Accuracy of actual value			Resolution, digital	Bit	10 (value 0 - 1023)	12 (value 0 - 4095) at QA01, MD
Two MFD devices	%	± 3	Resolution, digital	V DC	–	0.1, 0.01, 0.001 at MD
Within a single device	%	± 2 %	Recovery time	µs	100	100
Conversion time analog/digital	ms	Each CPU cycle	Accuracy			
Input current	mA	< 1	-25 °C - 55 °C	%	2	2
Cable length shielded	m	< 30	25C	%	1	1
			Conversion time, analog/digital	ms	Each CPU cycle	Each CPU cycle

		MFD-TP, MFD-TAP
Analog input temperature resistance Pt100 or Ni1000 sensors		
Number		2 x Pt 100 or 2 x Ni1000 (according to part no.)
Input type resistance sensor		
Platinum sensor Pt100 according to DIN EN 60751, IEC 751		MFD-TP12-PT...
Nickel sensor Ni1000 according to DIN 43760		MFD-TP12-NI...
Temperature range		
Pt100, range A, selectable	°C, (°F)	-40 - +90, (-40 - 194); 0 - 250, (32 - 482); 0 - 400, (32 - 752)
Ni1000, range A, selectable	°C, (°F)	-40 - +90, (-40 - 194); 0 - 250, (32 - 482)
Pt100, range B	°C, (°F)	-0 - +8500, (32 - 1562); -200 - 200, (-328 - 392)
Potential isolation		
From power supply		No
From the digital inputs		No
From the outputs		Yes
From PC interface, memory card, easyNet, easyLink		Yes
Resolution digital, scaling per sensor		
With operands "IA" and "MD", selectable under scaling	Bit	12 (0 - 4095)
With operand "MD", selectable under scaling	°C, (°F)	1, 0.1, (1), (0.1)
Measurement value resolution analog/digital	Bit	Depending upon the scaling
Measuring current	mA	< 1.6
Damage limit (in the case of a wiring error)		Apply external voltage
Measurement method		Two or three wire per sensor, selectable by connection of sensor
Accuracy (without EMC interference)		
Two MFD devices one above the other	%	Normally 1; maximal 1.6 (Pt), 1.2 (Ni)
Pt100 RTD (offset error, linearity error, repetition accuracy, temperature dependency of the device included)	%	± 0.8 of measurement range
Ni1000 RTD (offset error, linearity error, repetition accuracy, temperature dependency of the device included)	%	± 0,6 of measurement range
Conversion time analog/digital		
Without sampling time setting, selectable per sensor	ms	200
With sampling time (adjustable), selectable per sensor	ms	200 - 65535
Additional measurement aids		
Filtering (software), analog input signal smoothing (Pt1 characteristic), only with set sampling time, selectable for each detector		Yes
Filter for suppression of certain frequencies and their multiples	Hz	50, 60, 250, 500
Diagnostics		
Card diagnostic		Yes
Wire break diagnostic per sensor		Yes
Wire break diagnostic per sensor		Yes
Below lower measurement range		Yes
Upper measuring range limit of sensor exceeded		Yes
Cable length shielded	m	< 10

			EASY4...-DC-ME	EASY512-DC-T..	EASY410-DC-TE EC4E-221-DT...	EASY620-DC-TE	EASY721-DC-T..	EASY8..-DC-T..	MFD-T..
Transistor outputs									
Number			2	4	4	8	8	8	4
Rated operating voltage	U_e	V DC	24	24	24	24	24	24	24
Permissible range	U_e	V DC	20.4 - 28.8	20.4 - 28.8	20.4 - 28.8	20.4 - 28.8	20.4 - 28.8	20.4 - 28.8	20.4 - 28.8
Ripple		%	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5	≦ 5
Supply current									
On signal "0"	Normally/ max.	mA	24V/2A	9/16	9/16	18/32	18/32	18/32	18/32
On signal "1"	Normally/ max.	mA	12/22	12/22	12/22	24/44	24/44	24/44	24 /44
Protection against polarity reversal			Yes (Caution: A short circuit will result if 0 V or GND is applied to the outputs in the event that the supply voltage is connected to the wrong poles.)			Yes (Caution: A short circuit will result if 0 V or GND is applied to the outputs in the event that the supply voltage is connected to the wrong poles.)			
Potential isolation									
Potential isolation from power supply, inputs			No	Yes	Yes	Yes	Yes	Yes	Yes
From PC interface, memory card, easyNet, easyLink			Yes	Yes	Yes	Yes	Yes	Yes	–
From the inputs			–	–	–	–	–	Yes	Yes
Rated operational current on signal "1" DC	I_e	A	1	Max. 0.5	Max. 0.5	Max. 0.5	Max. 0.5	Max. 0.5	Max. 0.5
Lamp load without R_v		W	5	5	5	5	5	3 (Q1 - Q4) 5 (Q5 - Q8)	5 (Q1 - Q4)
Residual current on signal "0" per channel		mA	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Max. output voltage									
On "0" at external load < 10 MΩ		V	2.5	2.5	2.5	2.5	2.5	2.5	2.5
On "1" at I_e = 0.5 A		V	$U = U_e$ -1 V	$U = U_e$ -1 V	$U = U_e$ -1 V	$U = U_e$ -1 V	$U = U_e$ -1 V	$U = U_e$ -1 V	$U = U_e$ -1 V
Short-circuit protection			Yes, thermal (analysis via diagnostics input R16)	Yes, thermal (analysis via diagnostics input I16, I15; R15, R16)	Yes, thermal (analysis via diagnostics input R16)	Yes, thermal (analysis via diagnostics input I16, I15; R15, R16)	Yes, thermal (analysis via diagnostics input I16, I15; R15, R16)	Yes, electronic (Q1 – Q4), thermal (Q5 – Q8), (analysis via diagnostics input I16, I15)	Thermal (Q1 – Q4), (analysis via diagnostics input I16)
Short-circuit tripping current for R_a ≦ 10 mΩ		A	$1.4 \leqq I_e \leqq 4$	$0.7 \leqq I_e \leqq 2$ per output	$0.7 \leqq I_e \leqq 2$ per output	$0.7 \leqq I_e \leqq 2$	$0.7 \leqq I_e \leqq 2$ per output	$0.7 \leqq I_e \leqq 2$ per output	$0.7 \leqq I_e \leqq 2$ per output
Total short-circuit current		A	8	8	8	16	16	16	8
Peak short-circuit current		A	16	16	16	32	32	32	16
Thermal cutout			Yes	Yes	Yes	Yes	Yes	Yes	Yes
Max. operating frequency at constant resistive load R_L < 100 kΩ (dependent on program and load)		Ops/h	40000	40000	40000	40000	40000	40000	40000
Parallel connection of outputs									
With resistive load, inductive load with external suppressor circuit, combination within a group			Q1 and Q2	Group 1: Q1 to Q4	Group 1: Q1 to Q4	Group 1: S1 - S4 Group 2: S5 - S8	Group 1: Q1 to Q4 Group 2: Q5 to Q8	Group 1: Q1 to Q4 Group 2: Q5 to Q8	Group 1: Q1 to Q4
Number of outputs	Max.		2	4	4	4	4	4	4
Max. total current		A	2 (Attention! Outputs must be activated simultaneously and for the same duration)			2 (Attention! Outputs must be activated simultaneously and for the same duration)			
Status indication of the outputs			LCD display (if provided)			LCD display (if provided)			
Inductive load to EN 60947-5-1									
Without external suppressor circuit									
$T_{0.95}$ = 1 ms, R = 48 Ω, L = 16 mH									
Utilization factor		g	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Duty factor		% DF	100	100	100	100	100	100	100
Max. operating frequency f = 0.5 Hz (max. ED = 50 %)		Operations	1500	1500	1500	1500	1500	1500	1500
DC-13, $T_{0.95}$ = 72 ms, R = 48 Ω, L = 1.15 H									
Utilization factor		g	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Duty factor		% DF	100	100	100	100	100	100	100
Max. operating frequency f = 0.5 Hz (max. ED = 50 %)		Operations	1500	1500	1500	1500	1500	1500	1500
$T_{0.95}$ = 15 ms, R = 48 Ω, L = 0.24 H									
Utilization factor		g	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Duty factor		% DF	100	100	100	100	100	100	100
Max. operating frequency f = 0.5 Hz (max. ED = 50 %)		Operations	1500	1500	1500	1500	1500	1500	1500
With external suppressor circuit									
Utilization factor		g	1	1	1	1	1	1	1
Duty factor		% DF	100	100	100	100	100	100	100
Max. switching frequency, max. duty factor		Operations	Depending on the suppressor circuit			Depending on the suppressor circuit			

Notes For additional technical data EASY5... and EASY7... → AWB2528-1508D, EASY8... → AWB2528-1423D, MFD-Titan → AWB2528-1480D

				EASY202-RE	EASY410-DC-RE EASY512-..-R.. MFD-R.. MFD-AC-R..	EASY618/719-..-R.. EASY8..-...-R...
Relay outputs						
Number				2	4	6
Outputs in groups of				2	1	1
Parallel switching of outputs to increase performance				Not permissible	Not permissible	Not permissible
Protection of an output relay				Miniature circuit-breaker B16 or fuse 8 A (slow)		
Potential isolation						
From power supply				Yes	Yes	Yes
From the inputs				Yes	Yes	Yes
Electrical isolation in groups				Yes	Yes	Yes
Safe isolation according to EN 50178			V AC	300	300	300
Basic insulation			V AC	600	600	600
Lifespan, mechanical	Operations		x 10^6	10	10	10
Contacts						
Conventional thermal current (10 A UL)			A	8	8	8
Recommended for load: 12 V AC/DC			mA	> 500	> 500	> 500
Short-circuit proof p.f. = 1, characteristic B16 at 600 A			A	16	16	16
Short-circuit proof p.f. = 0.5 - 0.7; characteristic B16 at 900 A			A	16	16	16
Rated impulse withstand voltage U_{imp} contact coil			kV	6	6	6
Rated operating voltage	U_e		V AC	250	250	250
Rated insulation voltage	U_i		V AC	250	250	250
Safe isolation to EN 50178 between coil and contact			V AC	300	300	300
Safe isolation to EN 50178 between two contacts			V AC	300	300	300
Making capacity						
AC-15, 230 V AC, 3 A	Operations			300000	300000	300000
DC-13, 24 V DC, 5 A, 0.1 Hz	Operations			200000	200000	200000
Breaking capacity						
AC--15, 250 V AC, 3 A (600 ops./h)	Operations			300000	300000	300000
DC-13, L/R ≦ 150 ms, 24 V DC, 1 A (500 S/h)	Operations			200000	200000	200000
Filament bulb load						
1000 W at 230/240 V AC	Operations			25000	25000	25000
500 W at 115/120 V AC	Operations			25000	25000	25000
Fluorescent lamp load						
Fluorescent lamp load 10 x 58 W at 230/240 V AC						
With upstream electrical device	Operations			25000	25000	25000
Uncompensated	Operations			25000	25000	25000
Fluorescent lamp load 1 x 58 W at 230/240 V AC, conventionally compensated	Operations			25000	25000	25000
Switching frequency						
Mechanical operations			x 10^6	10	10	10
Switching frequency			Hz	10	10	10
Resistive load/lamp load			Hz	2	2	2
Inductive load			Hz	0.5	0.5	0.5
UL/CSA						
Continuous current at 240 V AC			A	10	10	10
Continuous current at 24 V DC			A	8	8	8
AC						
Control circuit rating codes (utilization category)				B 300 Light Pilot Duty		
Max. rated operational voltage			V AC	300	300	300
Max. thermal continuous current p.f. = 1 at B 300			A	5	5	5
Max. make/break p.f. ≠ capacity 1 at B 300			VA	3600/360	3600/360	3600/360
DC						
Control circuit rating codes (utilization category)				R 300 Light Pilot Duty		
Max. rated operational voltage			V DC	300	300	300
Max. thermal continuous current at R 300			A	1	1	1
Max. make/break capacity at R 300			VA	28/28	28/28	28/28

Notes For additional technical data EASY5... and EASY7... → AWB2528-1508D, EASY8... → AWB2528-1423D, MFD → AWB2528-1480D

			EASY205-ASI EASY204-DP	EASY221-CO EASY222-DN
General				
Standards			EN 55011, EN 55022, IEC/EN 61000-4, IEC 62026	EN 55011, EN 55022, IEC/EN 61000-4, EN 50325
			EN 55011, EN 55022, IEC/EN 61000-4, IEC 61158	EN 55011, EN 55022, IEC/EN 61000-4, IEC 62026
Dimensions (W x H x D)		mm	35.5 x 90 x 58 (2 space units)	35.5 x 90 x 58 (2 space units)
Weight		kg	0.12 0.15	0.15
Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories).	
Terminal capacity				
Solid		mm^2	0.2 - 4 (AWG 22 - 12)	0.2 - 4 (AWG 22 - 12)
Flexible with ferrule		mm^2	0.2 - 2.5 (AWG 22 - 12)	0.2 - 2.5 (AWG 22 - 12)
Flat-blade screwdriver		mm	3.5 x 0.8	3.5 x 0.8
Max. tightening torque		Nm	0.6	0.6
Ambient climatic conditions				
Operating ambient temperature		°C	-25…55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2	
Condensation			Prevent condensation by means of suitable measures	
Storage		°C	-40 - 70	-40 - 70
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95
Air pressure (in operation)		hPa	795 - 1080	795 - 1080
Ambient mechanical conditions				
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20
Vibrations (IEC/EN 60068-2-6)				
Constant amplitude 0.15 mm		Hz	10 - 57	10 - 57
Constant acceleration, 2 g		Hz	57 - 150	57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Shocks	18	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1	1
Mounting position			Vertical or horizontal	Vertical or horizontal
Electromagnetic compatibility (EMC)				
Overvoltage category/pollution degree			II/2	II/2
Electrostatic discharge (ESD), to IEC EN 61000-4-2				
Air discharge		kV	8	8
Contact discharge		kV	6	6
Electromagnetic fields (IEC/EN 61000-4-3, RFI)	V/m		10	10
Radio interference suppression			EN 55011 Class B, EN 55022 Class B	
Burst to IEC/EN 61000-4-4				
AS-Interface cables		kV	2	–
Supply cables		kV	–	2
Signal cables		kV	–	2
Power pulses (surge), to IEC/EN 61000-4-5		kV	– 0.5 (supply cables, symmetrical)	0.5 (supply cables, symmetrical)
Radiated RFI, to IEC/EN 61000-4-6		V	10	10
Insulation resistance				
Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142	
Insulation resistance			EN 50178	EN 50178

			EASY205-ASI	EASY204-DP	EASY221-CO	EASY222-DN
Power supply						
Rated operational voltage	U_e	V	26.5 - 31.6	24 (-15/+20 %)	24 (-15/+20 %)	24 (-15/+20 %)
Permissible range		V DC		20.4…28.8	20.4…28.8	20.4…28.8
Total power consumption of the AS interface		mA	≦ 30	–	–	–
Ripple		%	–	≦ 5	≦ 5	≦ 5
Max. current consumption (at 24 V DC)		mA	–	Normally 200	Normally 200	Normally 200
Voltage dips (IEC/EN 61131-2)		ms	–	10	10	10
Heat dissipation at 24 V DC		W	–	4.8	4.8	4.8
Protection against polarity reversal						
AS-Interface protection against polarity reversal			Yes	–	–	–
AS-Interface profile			7F (hex)	–	–	–
Slave address			0 - 31			
Addressing unit interface			3.5 mm socket	–	–	–
Power supply			–	Yes	Yes	Yes
LED indicators						
Supply			Power: green	Power LED (POW): green	RUN LED (RUN): green	Module status LED (MS): green
LED display			Com Error: red	LED PROFIBUS-DP (BUS): red	LED ERROR (ERR): red	Network status LED (NS): red/green
I/O addresses						
easy700/easy800 contact and coil ↔ AS-Interface			S1 → input 0 S2 → input 1 S3 → input 2 S4 → input 3 R1 ← outputs 0 R2 ← outputs 1 R3 ← outputs 2 R4 ← outputs 3 R5 ← PARAMETEROUTPUT 0 R6 ← PARAMETEROUTPUT 1 R7 ← PARAMETEROUTPUT 2 R8 ← PARAMETEROUTPUT 3	–	–	–
Network						
Terminal type			–	SUB-D 9 pole, socket	RJ45	5 pole, pluggable screw terminal
Potential isolation			–	Between bus and power supply (simple), between bus and power supply and easy base unit (safe isolation)		
Function			–	PROFIBUS-DP slave	CANopen slave	DeviceNet slave
Interface			–	RS485	CAN	CAN
Bus protocol			AS-Interface	PROFIBUS-DP	CANopen	DeviceNet
Baud rates			–	Automatic search up to 12 MBit/s	Automatic search up to 1 MBit/s	Automatic search up to 500 kBit/s
Bus terminating resistors			–	Can be connected via plug	Separate external bus termination required (120 Ω)	Separate external bus termination required (120 Ω)
Bus addresses			–	1 - 126 can be addressed via easy base unit with display or via EASY-SOFT	1 - 127 can be addressed via easy basic units with display or via easySoft	0 - 63 can be addressed via easy basic units with display or via easySoft
Services						
Cyclical			–	All data R1 - R16, S1 - S8		
Acyclical			–	Read/write, time, day, daylight saving time All parameters of the EASY function relay		

			EASY209-SE	EASY256-HCI
General				
Standards			EN 55011, EN 55022, IEC/EN 61000-4, EN 50178	
Dimensions (W x H x D)		mm	35.5 x 90 x 58 (2 space units)	35.5 x 90 x 58 (2 space units)
Weight		kg	0.15	0.15
Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories).	
Channels		Number	–	6
Voltage range for U_e				0 - 264
Current increase 115/230 V AC		mA	–	4/6
Delay time		ms	–	40/37
Cable length		m	–	100
Parallel switching of outputs to increase performance			–	Several possible (Off-delay extended depending on the number of parallel channels)
Type of resistance			–	Capacitive
Terminal capacity				
Solid		mm^2	0.2 - 4 (AWG 22 - 12)	0.2 - 4 (AWG 22 - 12)
Flexible with ferrule		mm^2	0.2 - 2.5 (AWG 22 - 12)	0.2 - 2.5 (AWG 22 - 12)
Flat-blade screwdriver		mm	3.5 x 0.8	3.5 x 0.8
Max. tightening torque		Nm	0.6	0.6
Data cable				
Solid		mm^2	0.25/1.5 (AWG 24/16)	–
Flexible with ferrule		mm^2	0.14/ 1 (AWG 26/17)	–
Ambient climatic conditions				
Operating ambient temperature		°C	-25…55	-25…55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2
Condensation			Prevent condensation by means of suitable measures	
Storage		°C	-40 - 70	-40 - 70
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95
Air pressure (in operation)		hPa	795 - 1080	795 - 1080
Ambient mechanical conditions				
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20
Vibrations (IEC/EN 60068-2-6)				
Constant amplitude 0.15 mm		Hz	10 - 57	10 - 57
Constant acceleration, 2 g		Hz	57 - 150	57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Shocks	18	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1	1
Mounting position			Vertical or horizontal	
Electromagnetic compatibility (EMC)				
Overvoltage category/pollution degree			II/2	II/2
Electrostatic discharge (ESD), to IEC EN 61000-4-2				
Air discharge		kV	8	8
Contact discharge		kV	6	6
Electromagnetic fields (IEC/EN 61000-4-3, RFI)	V/m		RS-232 line unshielded: 3, shielded: 10	10
Radio interference suppression			EN 55011 Class B, EN 55022 Class B	
Burst to IEC/EN 61000-4-4				
AS-Interface cables		kV	–	–
Supply cables		kV	2	–
Signal cables		kV	–	–
Ethernet interface cable		kV	2	–
COM interface cable		kV	2	–
Power pulses (surge), to IEC/EN 61000-4-5		kV	1 (supply cables, symmetrical)	2 (supply cables, symmetrical, EASY…DC)
Radiated RFI, to IEC/EN 61000-4-6		V	RS-232 line unshielded: 3, shielded: 10	10
Insulation resistance				
Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142	
Insulation resistance			EN 50178	EN 50178

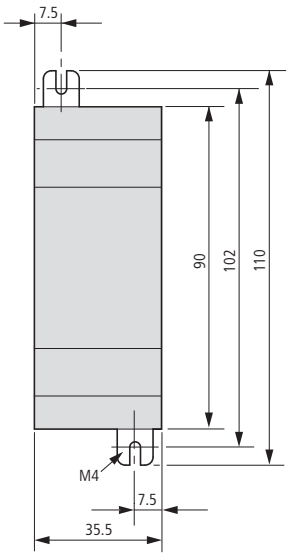
			EASY209-SE
Power supply			
Rated operational voltage	U_e	V	24 (-15/+20 %)
Permissible range		V DC	20.4…28.8
Ripple		%	≤ 5
Max. current consumption (at 24 V DC)		mA	Normally 65
Voltage dips (IEC/EN 61131-2)		ms	–
Heat dissipation at 24 V DC		W	1.7
Protection against polarity reversal			
Power supply			Yes
LED indicators			
Supply			Front-LED Power: ON
LED display			Front-LED COM active: flashes
RJ-45 socket, top			No Activity: OFF, Amber: Half Duplex, Green: Full Duplex
RJ-45 socket, bottom			No Link: OFF, Amber: 10 MBit/s, Green: 100 MBit/s
Gateway ready for operation			–
Power supply SmartWire (contactor)			–
Network Status (easyNet/CANopen)			–
Status SmartWire		LED	–
Reset			Front: per pushbuttons > 2s
Strain relief			By cable tie in fastener
Network			
Terminal type			–
Potential isolation			–
Bus protocol			–
Bus terminating resistors			–
Bus addresses			Default settings Ethernet: IP adress 0.0.0.0 SUBNET screen: 255.255.0.0 coupling unit address 0.0.0.0 remote address 0.0.0.0

			EASY200-POW	EASY400-POW EASY430-POW	EASY500-POW	EASY600-POW
General						
Standards			EN 55011, EN 55022, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27, EN 61000-6-2			
Dimensions (W x H x D)		mm	35.5 x 90 x 58 (2 space units)	71.5 x 90 x 58 (4 space units)	71.5 x 90 x 58 (4 space units)	107.5 x 90 x 58 (6 space units)
Weight		kg	0.1	0.25	0.28	0.3
Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories).			
Terminal capacity						
Solid		mm^2	0.2 - 4 (AWG 22 - 12)			
Flexible with ferrule		mm^2	0.2 - 2.5 (AWG 22 - 12)			
Flat-blade screwdriver		mm	3.5 x 0.8	3.5 x 0.8	3.5 x 0.8	3.5 x 0.8
Max. tightening torque		Nm	0.6	0.6	0.6	0.6
Ambient climatic conditions						
Operating ambient temperature		°C	-25…55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2	-25…55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2	-25 - 55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2; -25 - 45 to UL/CSA	-25…55, low temperatures to IEC 60068-2-1, high temperatures to IEC 60068-2-2
Condensation			Prevent condensation by means of suitable measures			
Storage		°C	-40 - 70	-40 - 70	-40 - 70	-40 - 70
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95	5 - 95	5 - 95
Air pressure (in operation)		hPa	795 - 1080	795 - 1080	795 - 1080	795 - 1080
Max. installation altitude above sea level, observe derating at higher altitudes		m	2000	2000	2000	2000
Ambient mechanical conditions						
Pollution degree			2	2	2	2
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20	IP20	IP20
Vibrations (IEC/EN 60068-2-6)						
Constant amplitude 0.15 mm		Hz	10 - 57	10 - 57	10 - 57	10 - 57
Constant acceleration, 2 g		Hz	57 - 150	57 - 150	57 - 150	57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Shocks	18	18	18	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50	50	50	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1	1	1	1
Mounting position			Vertical or horizontal	Vertical or horizontal	Horizontal, terminals at top	Horizontal, terminals at top
Electromagnetic compatibility (EMC)						
Electrostatic discharge (ESD), to IEC EN 61000-4-2						
Air discharge		kV	8	8	8	8
Contact discharge		kV	6	6	6	6
Electromagnetic fields (RFI), to IEC EN 61000-4-2		V/m	10	10	10	10
Radio interference suppression			EN 55011 Class B; EN 55022 Class B, EN 50081-2 Class B			
Burst pulses (IEC/EN 61000-4-4, level 3)		kV	2	2	2	2
Power pulses (surge) (IEC/EN 61000-4-5)		kV	2 (supply cables, symmetrical)			
Power pulses (surge) (IEC/EN 61000-4-5, Level 2), 24 V		kV	0.5 (output cables, symmetrical)			
Radiated RFI, to IEC/EN 61000-4-6		V	10	10	10	10
Surge voltage (EN 50 178), 24 V		kV	6	6	6	6
Insulation resistance						
Clearance in air and creepage distances			EN 50178			
Insulation resistance			EN 50178			
Protection class U_{out} to U_{in}			Class II to IEC 60536			
Potential isolation primary/secondary			Yes, SELV (VDE 0100 Part 410; IEC 60364-4-41, HD 384.4.41 S2) EN 60950, EN 50178			
Input voltage						
Rated input voltage AC		V	100/120/230/240 (-15/+10 %)			
Protective switches AC			FAZ-C1/1 or FAZ-B6/1			
Rated input voltage DC		V	85 - 264	85 - 264	85 - 264	85 - 264
DC protective switches			FAZ-C2/1-DC	FAZ-C2/1-DC	FAZ-C2/1-DC	FAZ-C2/1-DC
Voltage range		V AC	85 - 264	85 - 264	85 - 264	85 - 264
Frequency range		Hz	47 - 63	47 - 63	47 - 63	47 - 63
Mains failure bridging 115/230 V (IEC/EN 61000-4-11)		ms	> 10/> 20	> 20/> 40	> 20/> 40	> 20/> 40
Fuse 115/230 V		A	1.5 slow	2/1 time delay	2/1 time delay	2/1 time delay

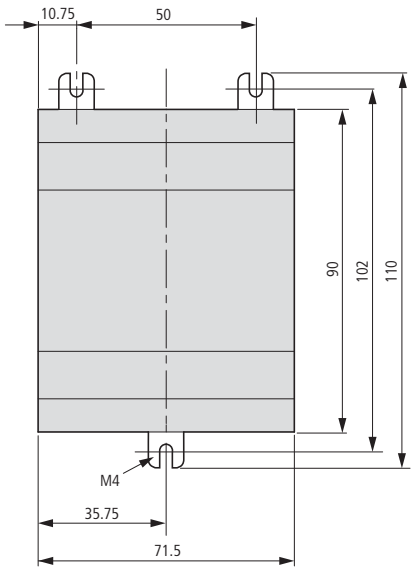
			EASY200-POW	EASY400-POW EASY430-POW	EASY500-POW	EASY600-POW
Rating data						
Efficiency		%	> 80	> 83	> 85	> 85
Power consumption		W	Normally 7	Normally 35	Normally 70	Normally 115
Heat dissipation		W	Normally 1	Normally 5	Normally 10	Normally 18
Input current						
Rated input current value 115/230 V AC		A	Approx. 0.17/0.05	Approx. 0.6/0.3	Approx. 0.8/0.4	Approx. 1/0.5
Inrush current at 230 C 25 V		A	< 5	< 18	< 30	< 30
Output voltage						
12 V DC (reference voltage)						
Rated value		V DC	12	–	–	–
Tolerance		%	± 4	–	–	–
Switching peaks		mV_{SS}	< 7	–	–	–
Effect of input voltage		%	± 1	–	–	–
Effect with 25 – 100 % load change		%	± 1	–	–	–
24 V DC						
Rated value		V DC	24	24	24	24
Tolerance		%	± 3	± 3	± 3	± 3
Switching peaks 115/230		mV_{SS}	< 50/30	< 5	< 5	< 5
Effect of input voltage		%	± 1	± 1	± 1	± 1
Effect with 25 – 100 % load change		%	± 1	± 2	± 2	± 2
Can be connected in parallel to increase power			–	– Yes	Yes	Yes
Output current						
12 V DC (reference voltage)						
Output current		mA	0 - 20	–	–	–
Effectiveness of current limitation		mA	20	–	–	–
Reduction of output voltage after current limitation		V	< 12	–	–	–
Overload proof			Yes, by current limitation permanently short-circuit proof	–	–	–
Proof against sustained short circuit			Yes	–	–	–
24 V DC						
Output current		A	0 - 0.35	0 - 1.25	0 - 2.5	0 - 4.2
Effectiveness of current limitation		A	> 0.4	> 1.5	> 2.8	> 4.8
Reduction of output voltage after current limitation		V	–	< 18	< 18	< 18
Overload proof			Yes, by current limitation			
Proof against sustained short circuit			Yes, hickup-mode	Yes, hickup mode, approx. 2 Hz		
Special load conditions						
Lamp load, cold, 24 V DC		W	2	10	–	–
Base load present		W	1	5	–	–
Behavior in the event of emergency switch off in 24 V circuit, switch off using contactor (contactor load, no damage)		W	6	30	–	–
Indication						
Indication of output voltage (LED, continuous green light = OK)		V DC	24	24	24	24

Dimensions

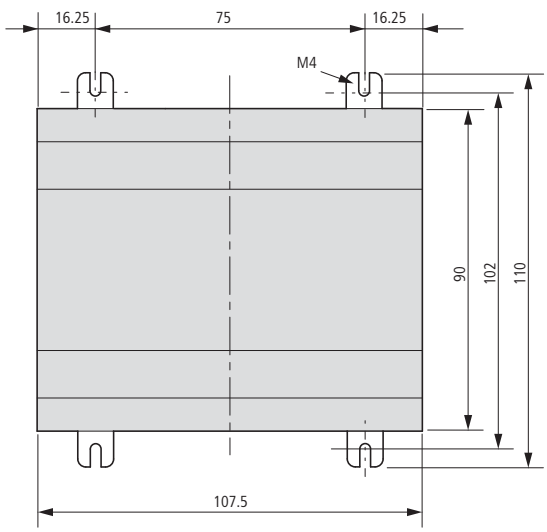
easy200



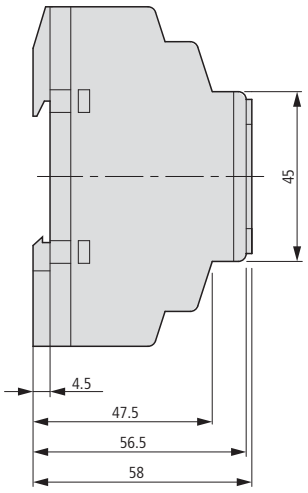
easy400
easy500



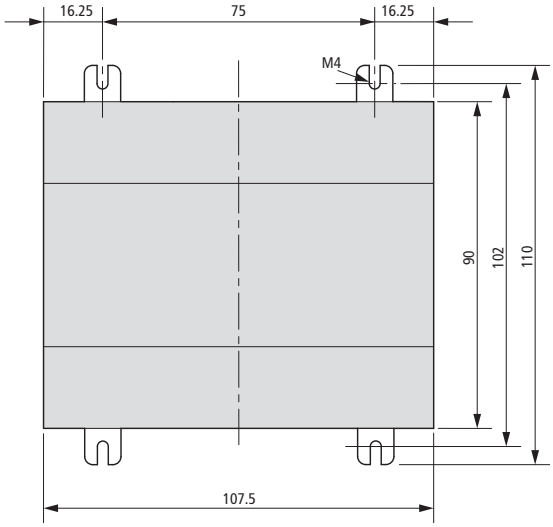
easy600
easy700

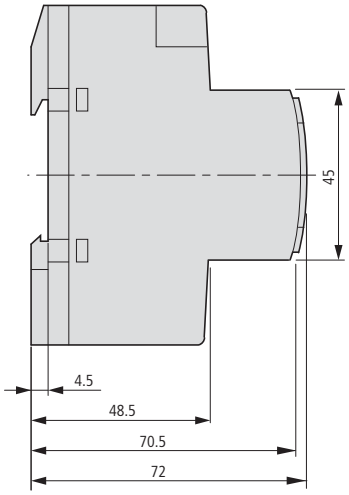


easy200
easy400
easy500
easy600
easy700

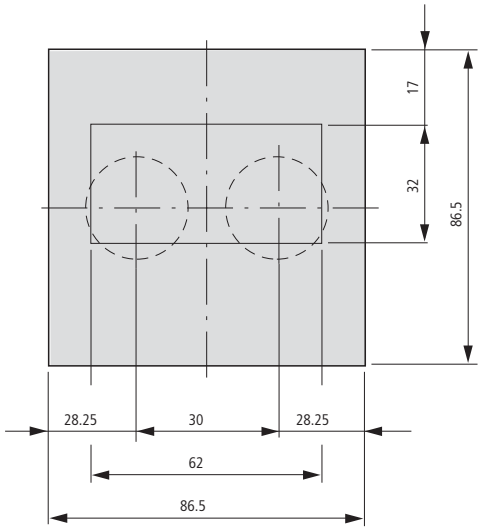


easy800





MFD-80...



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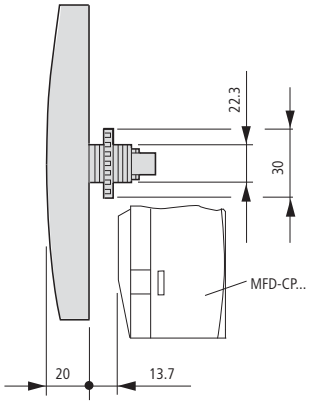
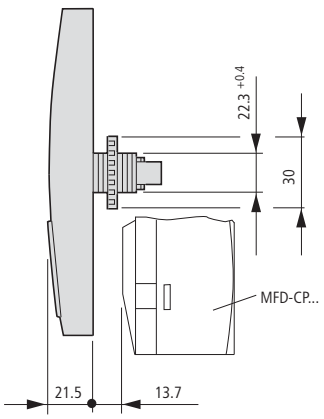
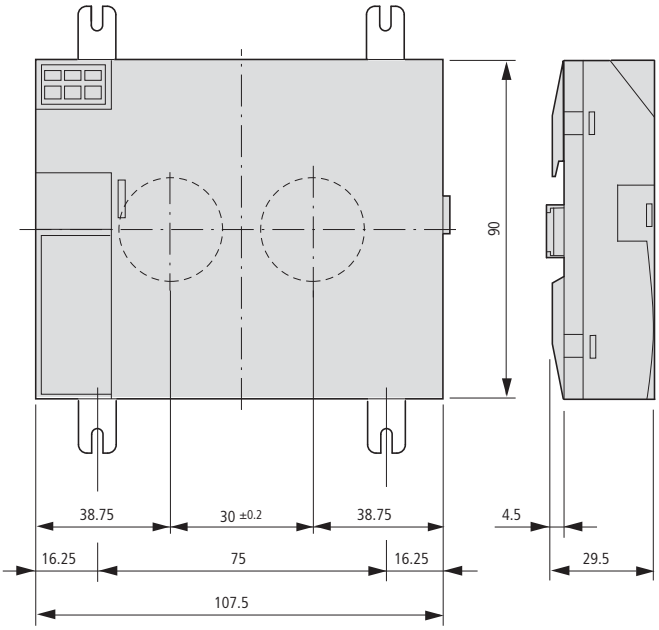


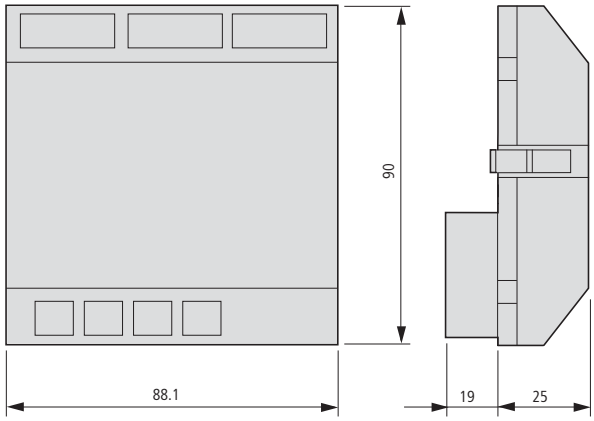
MFD-80-B



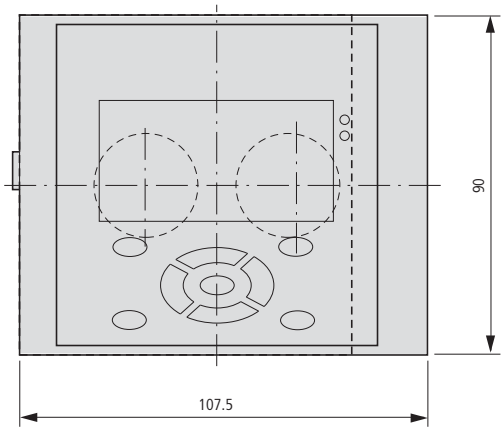
MFD-CP... , MFD-AC-CP...



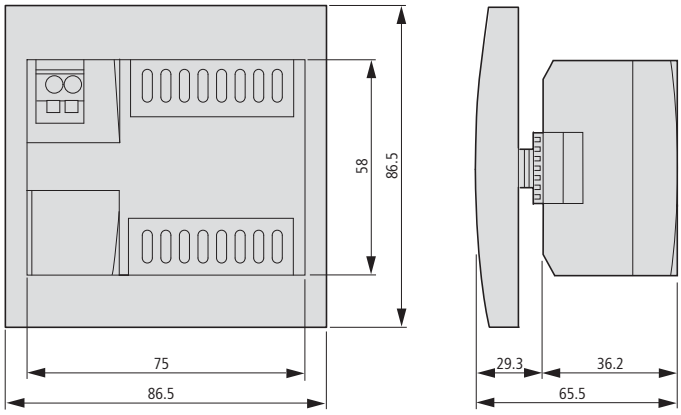
MFD-R... , MFD-T... , MFD-AC-R16

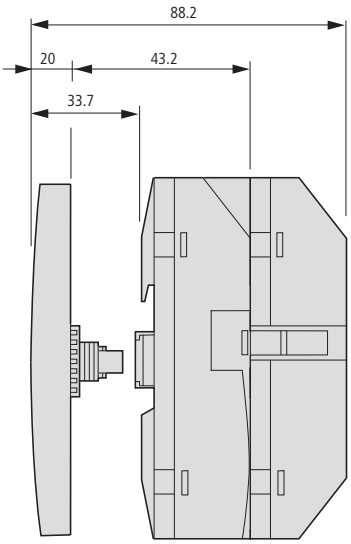


MFD-80... + MFD-CP... + MFD-R.../MFD-T...
MFD-80... + MFD-AC-CP... + MFD-AC-R16



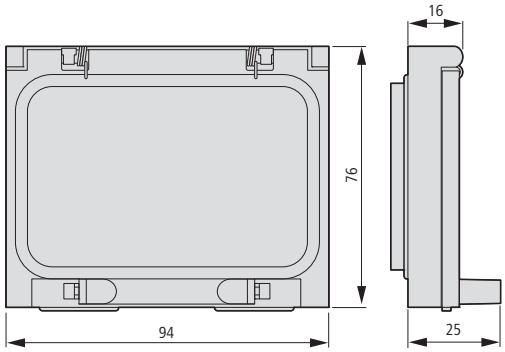
MFD-80... + MFD-CP4



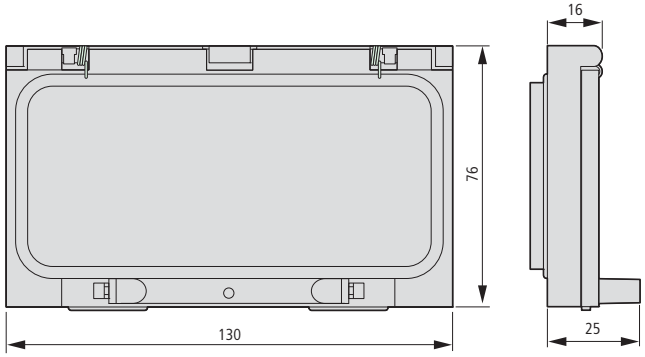


Hinged inspection windows

SKF-FF4

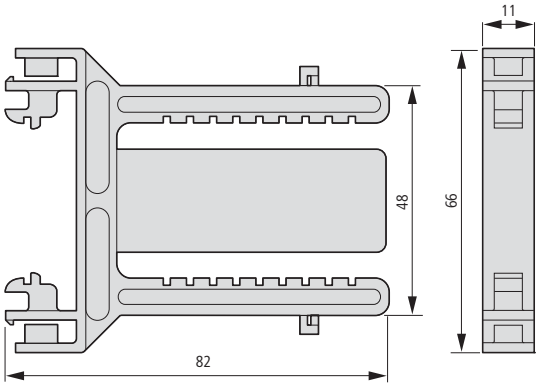


SKF-FF6



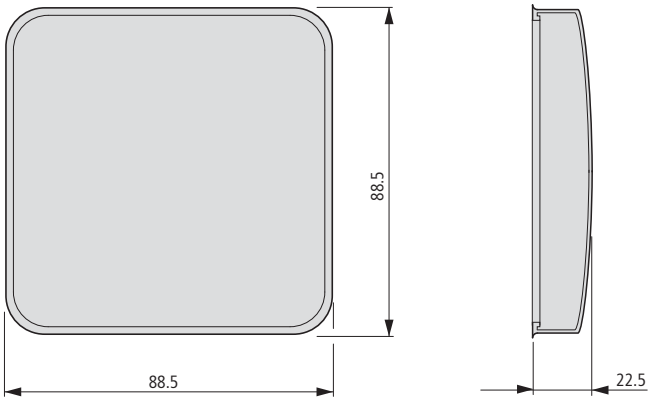
Top-hat rail adapter for hinged inspection window

SKF-HA



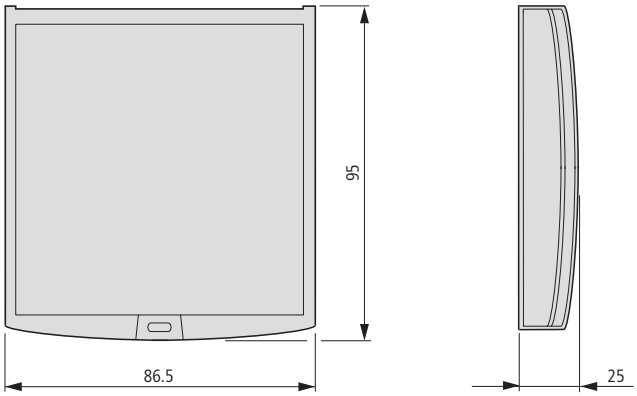
Protective diaphragm

MFD-XM-80



Protective cover

MFD-XS-80



Mounting rail

MFD-TS-144