

# Central processing unit/power supply unit, 24 V DC, expandable, without easyNet, double memory like MFD-CP 8



Part no. MFD-CP10-ME Article no. 133801

Delivery program			
Product range			Multi-function-display MFD-Titan
Basic function			Power supply unit/CPU modules
Subrange			CPU modules
•			24 V DC
Supply voltage			
easyNet/easyLink			ohne easyNet
Description			can be combined with display/operating unit MFD-80 and I/O module Expandable: Digital/analog inputs/outputs and AS-Interface, PROFIBUS-DP, CANopen®, DeviceNet bus systems Bussystem easyNet optional on board Program and screen memory Delivery with user program possible with MFD-COMBINATION product (Article no. 201801)
Description			double program and screen memory like MFD-CP8
Connection type			Spring-cage terminals
Degree of Protection			IP20
Technical data			
General			
Standards			EN 61000-6-1/-2/-3/-4, IEC 60068-2-6, IEC 60068-2-27
Dimensions (W x H x D)		mm	107.5 x 90 x 30
Weight		kg	0.145
Mounting			Fitted on the fixing shaft of the display or on top-hat rail according to IEC/EN 60715, 35 mm deep (without display)
Terminal capacities			
Solid		mm <sup>2</sup>	0.2/4 (AWG 24 - 12)
Flexible with ferrule		mm <sup>2</sup>	0.22.5 (AWG 24 - 12)
Standard screwdriver		mm	3.5 x 0.6
Climatic environmental conditions			
Operating ambient temperature		°C	-25 to 55, cold as per IEC 60068-2-1, heat as per IEC 60068-2-2
Condensation			Take appropriate measures to prevent condensation
Storage		°C	- 40 - 70
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95
Air pressure (operation)		hPa	795 - 1080
Ambient conditions, mechanical			
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20
Vibrations (IEC/EN 60068-2-6)		Hz	
Constant amplitude 0.15 mm		Hz	10 - 57
Constant acceleration 2 g		Hz	57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1
Mounting position			Vertical or horizontal
Electromagnetic compatibility (EMC)			
Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD)		kV	
Air discharge		kV	8
Contact discharge		kV	6
Electromagnetic fields (RFI) to IEC EN 61000-4-3		V/m	10
Radio interference suppression			EN 55011 Class B, EN 55022 Class B
Burst Impulse (IEC/EN 61000-4-4, Level 3)			
Supply cable		kV	2
Signal lines		kV	2
Power pulses (surge) (IEC/EN 61000-4-5)		kV	2 (supply cables, symmetrical)
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Desiration resistance	power pulses (surge) (IEC/EN 61000-4-5, level 2)		kV	2 (supply cables symmetrical, MFD-AC-CP8)
Desiration in air and creepage distances	Immunity to line-conducted interference to (IEC/EN 61000-4-6)		V	10
Back-up of real-time clock	Insulation resistance			
Back-up of real-time clock  Accuracy of the real-time clock  Accuracy of the real-time clock  Repetition accuracy of timing relays  Resolution  Resolution  Resolution  Resolution  Resolution  Resolution  Reange "As"  Reange "Mas"  Resolution  Resolution  Resolution  Witte cycles of the retentive memory  Power supply  Resolution lyding to tententive memory  Power supply	Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142
Back-up of real-time clock  Lacuracy of the real-time clock  Accuracy of the real-time clock  Accuracy of the real-time clock  Repetition accuracy of timing relays  Accuracy of timing relays (of values)  Resolution  Resol	Insulation resistance			EN 50178
### Body to the real-time clock  ### Accuracy of the real-time clock  ### Accuracy of timing relays  ### Accuracy of timing relays (or values)  ### Accuracy of timing relays (or values)  ### Accuracy of timing relays (or values)  ### Accuracy of timing relays  ### Accuracy of t	Back-up of real-time clock			
	Back-up of real-time clock			
Repetition accuracy of timing relays (of values)				Backup time (hours) with fully charged double layer capacitor  Service life (years)
Accuracy of timing relays (of values)         %         ± 0.02           Range "S"         5           Range "M.S"         \$         1           Range "H.M"         min         1           Reterview memory           Write cycles of the retentive memory	Accuracy of the real-time clock		s/day	Normally ±5 s/day (±0.5 h/year)
Respoilution Range "S" Range "MS" Range "HM" Range "HM" Riceturiue memory Write cycles of the retantive memory Power supply Residual ripple 1 24 V DC Residual ripple 1 25 SS Residual ripple 1 26 SS Residual ripple 1 27 Residual ripple 1 28 SS Residual ripple 1 29 Residual ripple 1 20 Residual ripple 2 Residual ripple				
Range "S"         ms         5           Range "MS"         s         1           Range "HM"         s         1           Retentive memory         s         10 <sup>10</sup> (read/write cycles)           Power supply           Rated operational voltage         U <sub>e</sub> V         24 CC (-15-20 %)           Admissible range         VDC         204 - 28 8           Residual ripple         %         ≤         5           Input current         at 24 V DC         Max         Normally 200           Voltage dips         max         Normally 200           Voltage dips         max         Normally 200           Heat dissipation at 24 V DC         W         3.4         Current consumption at 24 V DC           Note on heat dissipation at 24 V DC         W         3.4         Current consumption at 24 V DC           Network easyNet         max 8         8           Data transfer rate/distance         Number         max 8           Distance         number         max 8           Distance         number         post Notes, 2 m           Power supply         yes           From the inputs         yes           From power supply         yes      <	Accuracy of timing relays (of values)		%	± 0.02
Range "M.S"         s         1           Range "H.M"         min         1           Retentive memory         win         1           Write cycles of the retentive memory         10 <sup>10</sup> (read/write cycles)           Power supply         Total (154 coll)           Rated operational voltage         U <sub>q</sub> V DC         24 DC (-154 20 %)           Admissible range         V DC         204 - 28.8           Residual ripple         "         %         5           Input current         "         "         %         5           Voltage dips         "         Mormally 200         ***         **         ***	Resolution			
Range "HM"         min         1           Retentive memory         Virte cycles of the retentive memory         Into <sup>10</sup> (read/write cycles)           Power supply         Virte cycles of the retentive memory         Virte cycles of the retentive memory           Power supply         Virte cycles of the retentive memory         Virte cycles of the retentive memory           Power supply         Virte cycles of the retentive memory         Virte cycles of the retentive memory           Power supply         Virte cycles of the retentive memory         Virte cycles of the retentive memory           Power supply         Virte cycles of the retentive memory         Virte cycles of the retentive memory         Virte cycles of the retentive cyc	Range "S"		ms	5
Retentive memory   Write cycles of the retentive memory 1010 (read/write cycles)   Power supply V 2 4 DC (-15420%)   Admissible range V De 204 - 28.8   Residual ripple % 2 5 \$ 5   Input current at 24 V DC Mormally 200   Voltage dips Mormally 200   Power loss Heat dissipation at 24 V DC Mormally 200   Net on heat dissipation at 24 V DC W 3.4   Note on heat dissipation W 3.4   Stations Number max 8   Stations Number max 8   Data transfer rate/distance Number max 8   Distance Polov Ribits, 5 m 501 Kbits, 25 m 250 Kbits, 300 m 125 Kbits, 125 m 501 Kbits, 250 m 126 Kbits, 126 m 127 Kbits, 126 m 127 Kbits, 126 m 128 Kbits, 126 m <b< td=""><td>Range "M:S"</td><td></td><td>S</td><td>1</td></b<>	Range "M:S"		S	1
Power supply         V         24 DC (-15+20 %)           Admissible range         V DC         24 DC (-15+20 %)           Residual ripple         % 25         5           Input current         mA         Normally 200           at 24 V DC         mA         Normally 200           Voltage dips         mS         10           Power loss         mS         10           Head dissipation at 24 V DC         W         3.4           Note on heat dissipation         W         3.4           Stations         M         Max 8           Stations         M         Max 8           Data transfer rate/distance         M         1000 kBit/s, 6 m           Distance         M         25 Kbit/s, 700 m           Distance         M         25 Kbit/s, 700 m           Potential isolation         M	Range "H:M"		min	1
Power supply           Rated operational voltage         Ue         V         24 DC (-154-20 %)           Admissible range         V DC         20.4 - 28.8           Residual ripple         %         ≤ 5           Input current         mA         Normally 200           Voltage dips         mS         10           Power loss         mS         10           Heat dissipation at 24 V DC         W         3.4           Note on heat dissipation         W         3.4           Network easyNet         Current consumption at 24 V DC           Stations         Number         max. 8           Data transfer rate/distance         1000 kBit/s, 6 m         500 kBit/s, 5 m           Dok tivis, 125 m         500 kBit/s, 4 m         125 kBit/s, 125 m           50 K bit/s, 300 m         20 Kbit/s, 700 m         10 kBit/s, 100 m           Distance         m         5           Potential isolation         m         5           From power supply         yes           From the inputs         yes           From the outputs         yes           to PC interface, memory card, easyNet, easyLink         yes	Retentive memory			
Rated operational voltage         Ue         V         24 DC (-15420 %)           Admissible range         V DC         204 - 28.8           Residual ripple         %         \$ 5           Input current         mA         Normally 200           Voltage dips         mS         10           Power loss         W         3.4           Heat dissipation at 24 V DC         W         3.4           Note on heat dissipation         Current consumption at 24 V DC           Network easyNet         ms. 8         ms. 8           Stations         1000 kBirlys, 6 m 500 kBirlys, 6 m 500 kBirlys, 40 m 125 kBirlys, 125 m 500 kBirlys, 300 m 20 kBirlys, 700 m 10 kBirlys, 700 m	Write cycles of the retentive memory			10 <sup>10</sup> (read/write cycles)
Admissible range  Residual ripple  Resid	Power supply			
Residual ripple    Society   Societ	Rated operational voltage	U <sub>e</sub>	V	24 DC (-15/+20 %)
Input current at 24 V DC mA Normally 200  Voltage dips ms 10  Power loss Heat dissipation at 24 V DC Note on heat dissipation Network easyNet  Stations Data transfer rate/distance  Number max. 8  Data transfer rate/distance  Number max. 8  1000 kBir/s, 6 m 500 kBir/s, 5 m 250 kBir/s, 125 m 250 kBir/s, 125 m 250 kBir/s, 100 m 10 kBir/s, 1000 m 10 kBir/s	Admissible range		V DC	20.4 - 28.8
at 24 V DC  Voltage dips  Power loss  Heat dissipation at 24 V DC  Note on heat dissipation  Number  Stations  Number  Max. 8  Data transfer rate/distance  Distance  Potential isolation  From power supply  From the inputs  From the outputs  to PC interface, memory card, easyNet, easyLink  Max. Normally 200  Max. Potential isolation  max. 10  Current consumption at 24 V DC  Number  max. 8  1000 kBirls, 6 m 500 kbirls, 25 m 250 kbirls, 700 m 10 k	Residual ripple		%	$\leq_5$
Voltage dips       ms       10         Power loss       Heat dissipation at 24 V DC       W       3.4         Note on heat dissipation       Current consumption at 24 V DC         Network easyNet       Number       max. 8         Stations       Number       max. 8         Data transfer rate/distance       1000 kBit/s, 6 m 500 Kbit/s, 25 m 250 Kbit/s, 25 m 250 Kbit/s, 25 m 250 Kbit/s, 300 m 20 Kbit/s, 125 m 150 Kbit/s, 100 m 10 Kbit/s, 100 m         Distance       m       5         Potential isolation       yes         From power supply       yes         From the inputs       yes         From the outputs       yes         to PC interface, memory card, easyNet, easyLink       yes	Input current			
Power loss Heat dissipation at 24 V DC  Note on heat dissipation  Network easyNet  Stations  Data transfer rate/distance  Number  1000 kBit/s, 6 m 500 Kbit/s, 25 m 250 Kbit/s, 40 m 125 kBit/s, 125 m 50 Kbit/s, 700 m 10 kBit/s, 1000 m  Distance  m 5  Potential isolation  From power supply From the inputs From the outputs to PC interface, memory card, easyNet, easyLink  W 3.4  Current consumption at 24 V DC  W 3.4  Current consumption at 24 V DC  Number max. 8  1000 kBit/s, 6 m 500 Kbit/s, 5 m 250 Kbit/s, 700 m 10 kBit/s, 125 m 50 Kbit/s, 125 m 50 Kbit/s, 1000 m  10 kBit/s, 1000 m 10	at 24 V DC		mA	Normally 200
Heat dissipation at 24 V DC  Note on heat dissipation  Network easyNet  Stations  Data transfer rate/distance  Data transfer rate/distance  Distance  m  Distance  m  Distance  m  From power supply  From the inputs  From the outputs  to PC interface, memory card, easyNet, easyLink  Number  max. 8  Number  max. 8  Number  max. 8  1000 kBit/s, 6 m  500 kbit/s, 95 m  250 kbit/s, 40 m  125 kBit/s, 125 m  50 kbit/s, 700 m  10 Kbit/s, 700 m  10 Kbit/s, 1000 m  yes  yes  to PC interface, memory card, easyNet, easyLink	Voltage dips		ms	10
Note on heat dissipation  Network easyNet  Stations  Number max. 8  Data transfer rate/distance  Number soon kbit/s, 25 m 250 Kbit/s, 40 m 125 kBit/s, 125 m 250 Kbit/s, 700 m 10 Kbit/s, 700 m 10 Kbit/s, 1000 m  Distance  m 5  Potential isolation  From power supply From the inputs From the outputs to PC interface, memory card, easyNet, easyLink  Current consumption at 24 V DC  Rax. 8  Unumber max. 8  1000 kBit/s, 6 m 500 Kbit/s, 25 m 250 Kbit/s, 300 m 20 Kbit/s, 700 m 10 Kbit/s, 1000 m  5  Ves  ves  to PC interface, memory card, easyNet, easyLink  ves	Power loss			
Number max. 8  Data transfer rate/distance  Data transfer rate/distance  Data transfer rate/distance  Data transfer rate/distance  Distance  Distance  Potential isolation  From power supply  From the inputs  From the outputs  to PC interface, memory card, easyNet, easyLink  Potential isolation  Number max. 8  1000 kBit/s, 50 m 500 kbit/s, 25 m 250 Kbit/s, 25 m 250 Kbit/s, 125 m 50 kbit/s, 700 m 10 Kbit/s, 700 m 10 Kbit/s, 1000 m  ps  yes  yes  yes  to PC interface, memory card, easyNet, easyLink	Heat dissipation at 24 V DC		W	3.4
Stations       Number       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, 700 m 10 Kbit/s, 700 m 10 Kbit/s, 1000 m         Distance       m       5         Potential isolation       m       5         From power supply       yes         From the inputs       yes         From the outputs       yes         to PC interface, memory card, easyNet, easyLink       yes	Note on heat dissipation			Current consumption at 24 V DC
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	Network easyNet			
500 Kbit/s, 25 m 250 Kbit/s, 40 m 125 KBit/s, 125 m 50 Kbit/s, 700 m 10 Kbit/s, 700 m 10 Kbit/s, 1000 m  Distance  m 5  Potential isolation  From power supply  From the inputs  From the outputs  to PC interface, memory card, easyNet, easyLink  pond	Stations		Number	max. 8
Potential isolation  From power supply  From the inputs  From the outputs  to PC interface, memory card, easyNet, easyLink  Potential isolation  yes  yes  yes	Data transfer rate/distance			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
From power supply  From the inputs  From the outputs  to PC interface, memory card, easyNet, easyLink  yes  yes  yes	Distance		m	5
From the inputs  From the outputs  to PC interface, memory card, easyNet, easyLink  yes  yes	Potential isolation			
From the outputs  to PC interface, memory card, easyNet, easyLink  yes	From power supply			yes
to PC interface, memory card, easyNet, easyLink  yes	From the inputs			yes
	From the outputs			yes
	to PC interface, memory card, easyNet, easyLink			yes
	Bus termination (first and last station)			

# Design verification as per IEC/EN 61439

Connection technique

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	0
Heat dissipation per pole, current-dependent	$P_{vid}$	W	0
Equipment heat dissipation, current-dependent	$P_{\text{vid}}$	W	0
Static heat dissipation, non-current-dependent	$P_{vs}$	W	3.4
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
IEC/EN 61439 design verification			

RJ45, 8-pole

10.2 Strength of materials and parts	
10.2.2 Corrosion resistance	Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures	Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat	Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation	Meets the product standard's requirements.
10.2.5 Lifting	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions	Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES	Meets the product standard's requirements.
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections	Is the panel builder's responsibility.
10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9 Insulation properties	
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating	Is the panel builder's responsibility.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

#### **Technical data ETIM 6.0**

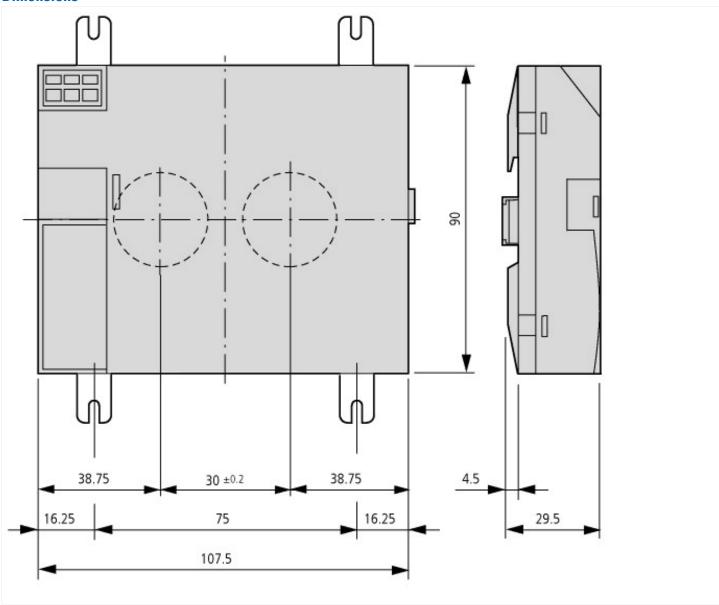
Technical data ETTIVI 6.0				
PLC's (EG000024) / Graphic panel (EC001412)				
Electric engineering, automation, process control engineering / Control / Operate and Observe (HMI) / Graphic panel (HMI) (ecl@ss8.1-27-24-23-02 [BAA722010])				
Supply voltage AC 50 Hz	V	0 - 0		
Supply voltage AC 60 Hz	V	0 - 0		
Supply voltage DC	V	20.4 - 28.8		
Voltage type of supply voltage		DC		
Number of HW-interfaces industrial Ethernet		0		
Number of HW-interfaces PROFINET		0		
Number of HW-interfaces RS-232		0		
Number of HW-interfaces RS-422		0		
Number of HW-interfaces RS-485		0		
Number of HW-interfaces serial TTY		0		
Number of HW-interfaces USB		0		
Number of HW-interfaces parallel		0		
Number of HW-interfaces Wireless		0		
Number of HW-interfaces other		3		
With SW interfaces		Yes		
Supporting protocol for TCP/IP		No		
Supporting protocol for PROFIBUS		No		
Supporting protocol for CAN		No		
Supporting protocol for INTERBUS		No		
Supporting protocol for ASI		No		
Supporting protocol for KNX		No		
Supporting protocol for MODBUS		No		
Supporting protocol for Data-Highway		No		
Supporting protocol for DeviceNet		No		
Supporting protocol for SUCONET		No		
Supporting protocol for LON		No		

Supporting protocol for PROFINET IO		No
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS		No
Supporting protocol for Foundation Fieldbus		No
Supporting protocol for EtherNet/IP		No
Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for DeviceNet Safety		No
Supporting protocol for INTERBUS-Safety		No
Supporting protocol for PROFIsafe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for other bus systems		No
Radio standard Bluetooth		No
Radio standard WLAN 802.11		No
Radio standard GPRS		No
Radio standard GSM		No
Radio standard UMTS		No
10 link master		No
Type of display		-
With colour display		No
Number of colours of the display		0
Number of grey-scales/blue-scales of display		0
Screen diagonal	inch	0
Number of pixels, horizontal		0
Number of pixels, vertical		0
Useful project memory/user memory	kByte	64
With numeric keyboard		No
With alpha numeric keyboard		No
Number of function buttons, programmable		9
Number of buttons with LED		0
Number of system buttons		0
With touch screen		No
With message indication		Yes
With message system (incl. buffer and confirmation)		No
Process value representation (output) possible		Yes
Process default value (input) possible		Yes
With recipes		No
Number of password levels		1
Printer output available		No
Number of online languages		256
Additional software components, loadable		Yes
Degree of protection (IP), front side		IP20
Operation temperature	°C	-25 - 55
Rail mounting possible		Yes
Wall mounting/direct mounting		No
Suitable for safety functions		No
Width of the front	mm	0
Height of the front	mm	0
Built-in depth	mm	25

## **Approvals**

- PPI - COLO	
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 Category Control No.	NRAQ
CSA File No.	012528
CSA Class No.	2252-01 + 2258-02

#### **Dimensions**



## **Additional product information (links)**

pacy control relays" IL0501301/17 (AWA2528_2019)

Instruction leaflet "Multi-function display, easy control relays" IL05013014Z (AWA2528-2019) ftp://ftp.moeller.net/DOCUMENTATION/AWA\_INSTRUCTIONS/IL05013014Z2010\_11.pdf

#### Instruction leaflet "power supply unit, communication module" IL05013018Z (AWA2528-2175)

Instruction leaflet "power supply unit,	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013018Z.pdf
communication module" IL05013018Z	
(AWA2528-2175)	

#### Manual "MFD-Titan multi-function display" MN05002001Z (AWB2528-1480)

Manual "MFD-Titan multi-function display" MN05002001Z (AWB2528-1480) - Deutsch	ftp://ftp.moeller.net/D0CUMENTATION/AWB_MANUALS/MN05002001Z_DE.pdf
Manual "MFD-Titan multi-function display" MN05002001Z (AWB2528-1480) - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05002001Z_EN.pdf
Labeleditor (Beschriftungssoftware)	http://downloadcenter.moeller.net/de/software.f6023a63-5acb-42c7-a51c-ccf99091cace