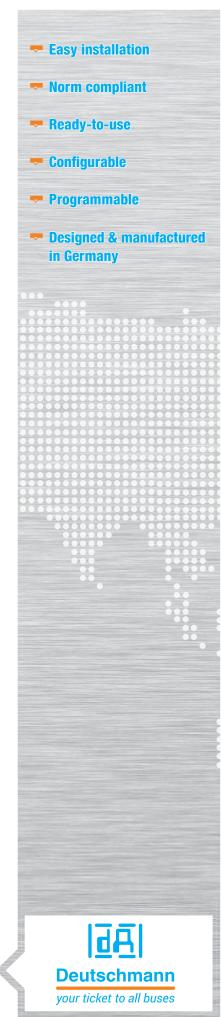
FLEXIBLE GATEWAYS FOR INDUSTRIAL COMMUNICATION





Deutschmann Automation



Deutschmann Automation, the specialist for industrial data communication, is a mediumsized German company located near Frankfurt. The company designs and manufactures innovative network components for the sector of industrial

data communication in the Industry 4.0 environment. Various series of Fieldbus and Industrial Ethernet gateways, and embedded solutions as well as development tools are offered under the brand name UNIGATE[®].

A special feature of the UNIGATE® Gateway series is Brand labeling. With the customized design Deutschmann Automation not only gives you the opportunity to preconfigure the device and choose different housing colors, you can also apply your own logo.

In 2016 Deutschmann, who became known with cam controls, celebrated its 40th birthday.

Michael M. Reiter, General Manager Marketing and Sales, says: "Today, our company stands for innovative strength in the development of new network components and solutions for a wide range of applications while at the same time providing consistency in our product range



and comprehensive customer support".

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What sets us apart

Configuration tool WINGATE



WINGATE® is a configuration software for the Deutschmann UNIGATE® series. Its easy-to-use interface ensures a comfortable configuration in just a few steps.

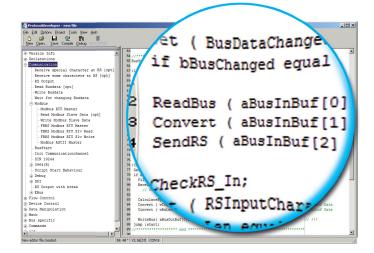
WINGATE (Wingate.wcf)			
File Options Extras Help			
✓ more items visible	✓ more items editable		
Parameter	Value		
Software revision	V 7.8	Protocol	×
Device type	PROFIBUS DP (Script)		
Script revision	36		
Serial Number	12345678	Transparent	🚽 🗸 <u>o</u> k
Script memory	16128	Universal 232	
Data memory	8192	Modbus RTU Master	
FIELDBUS			V C 1
Fieldbus ID	126	Modbus RTU Slave	💢 <u>C</u> ancel
Data exchange	On Change	Modbus ASCII Master	
Fieldbus lengthbyte	inactive		
Ident Number (0x2079)	disabled	Modbus ASCII Slave	
Ext. Diag Off	disabled	3964(R)*	
Swap word	disabled	SSÍ	
APPLICATION		551	
Protocol	Transparent		
Start bits	1		
Data bits	8		
Stop bits	1		
Parity	None		
Baudrate	9600	* Suitable to transfer RK512 protocol	
232 Interface	232	J	
RS-PBV1-CL (232/422/485/SSI) V7 (C:11848/16128,V:7889/8192)="Ur Date=03.11.2015 SN=12345678 ID	7.8.3[36] (c)dA Switch=0x00FF Script niversalscript Deutschmann'' Author=''G/ =0	'S''Version='V 1.4.4'' Market standard p	rotocols (extract)
Protocol	256 bytes COM7 V 2.1	0.0 (411)	

Protocol Developer -Flexibility via Deutschmann Script language



More complex applications, which cannot be presented via a pure configuration can be programmed via the Deutschmann Script language. The Protocol Developer is a free tool for generation of the script. It is easy to use and specifically optimized to the bus communication. You decide whether you want to program the Script yourself or hire Deutschmann to do so.

The script programming gives you a flexible possibility to solve your communication task. On both sides, i.e., on the application-side and on the bus side, data can be edited, converted and arranged.



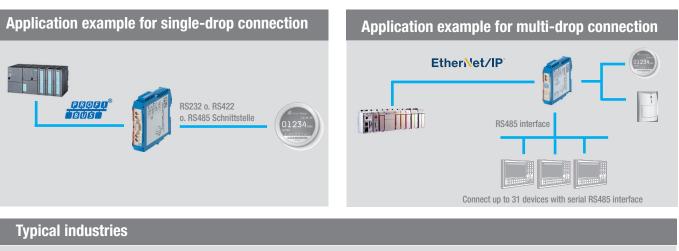
Script example in the Protocol Developer

Protocol Converter UNIGATE® CL

For all devices with a serial interface

The Protocol Converter UNIGATE[®] CL connects devices via their serial interfaces with the desired fieldbus or Industrial Ethernet standard. RS232, RS485 and RS422 interfaces are on Board as a standard feature.

The communication between the serial side and the bus takes place through the device configuration and a selection of the commercially available protocol, such as Modbus ASCII, Modbus RTU (Master or slave), 3964 (R), RK512, DIN measuring bus, DIN 19244. For more complex applications the device can also be controlled by a script. The protocol converters are available as slim DIN rail module according to IP20.



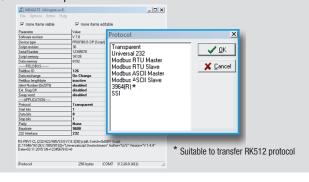


UNIGATE® CL - Features and benefits

- RS232, RS485- and RS422 interfaces
- The CL is well compatible with PLCs from the worldwide leading manufacturers. E.g. Rockwell, Siemens, Schneider Electric, Beckhoff and more
- SSI protocol is supported e.g. for encoder
- Built-in isolation on the bus side, optionally on the serial side
- Easy configuration via configuration tool WINGATE
- More Flexibility with free programming via Protocol Developer (Deutschmann Script language)
- No adjustment of the device firmware needed
- Additional debug interface on board
- Same Dimensions in all bus variants
- Brand labeling, pre-configured according to the customer
- Wide voltage range from 10 to 33 VDC
- When using the RS485 interface, multiple terminal devices can be used on a Protocol Converter (e.g. Modbus RTU)
- Option I/O8 available on request 8 additional digital I/ Os (24 V). Connectable via configuration or via Script

Configuration tool WINGATE

WINGATE is a Deutschmann developed configuration software for the UNIGATE[®] series. The Windows[™] based software with an easy- to-use interface requires no programming and the device configuration can be finished in just a few steps.



Protocol Developer - Script language

5:5**%**

More complex applications, which cannot be presented via configuration can be programmed via Deutschmann Script language. The free of charge Protocol Developer generates the Script. It is easy to use and optimized for the bus communication. You can program the Script yourself or hire Deutschmann to do so for you.



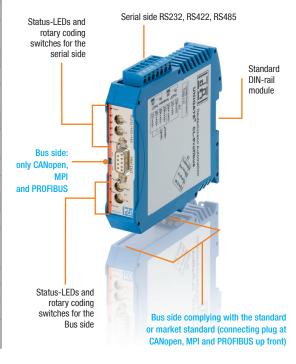


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Galvanic isolation on sub- networkYesEnvironmental CharacteristicsOperating temperature-40°C +85°C, variants with RJ45 socket: -25°C +85°CStorage temperature-40°C +85°CRelative humidity0% - 95% non condensingImmunity and emission for int/ustrial environmentElectrostatic discharge+/- 4 kVElectro magnetic RF fields10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHzEN 61000-4-3Fast Transients+/- 1 kVEN 61000-4-4Surge protection+/- 1 kVEN 61000-4-5RF conducted interference10 V/msEN 61000-4-6Emission (at 10 m)40 dB 30 MHz - 230 MHzCISPR 16-2-3	Hardware Characteristics				
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Operating temperature-40°C +85°C, variants with RJ45 socket: -25°C +85°CStorage temperature-40°C +85°CRelative humidity0% - 95% non condensingImmunity and emission for intustrial environmentElectrostatic discharge+/- 4 kVElectro magnetic RF fields10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHzFast Transients+/- 1 kVSurge protection+/- 1 kVElectonucted interference10 V/msElectonucted interference10 V/msSurge protection+/- 230 MHzRF conducted interference10 V/msElectonucted interference		Yes			
socket: -25°C +85°CStorage temperature-40°C +85°CRelative humidity0% - 95% non condensingImmunity and emission for industrial environmentElectrostatic discharge+/- 4 kVElectrostatic discharge+/- 4 kVElectro magnetic RF fields10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHzFast Transients+/- 1 kVSurge protection+/- 1 kVRF conducted interference10 V/msEn 61000-4-6Emission (at 10 m)40 dB 30 MHz - 230 MHzCISPR 16-2-3	Environmental Characteristics				
Relative humidity 0% - 95% non condensing Immunity and emission for industrial environment Electrostatic discharge +/- 4 kV Electrostatic discharge +/- 4 kV Electro magnetic RF fields 10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz Fast Transients +/- 1 kV Surge protection +/- 1 kV ER conducted interference 10 V/ms En 61000-4-6 Emission (at 10 m) 40 dB 30 MHz - 230 MHz	Operating temperature				
Immunity and emission for industrial environment Electrostatic discharge +/- 4 kV EN 61000-4-2 Electro magnetic RF fields 10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz EN 61000-4-3 Fast Transients +/- 1 kV EN 61000-4-4 Surge protection +/- 1 kV EN 61000-4-5 RF conducted interference 10 V/ms EN 61000-4-6 Emission (at 10 m) 40 dB 30 MHz - 230 MHz CISPR 16-2-3	Storage temperature	-40°C +85°C			
Electrostatic discharge +/- 4 kV EN 61000-4-2 Electro magnetic RF fields 10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz EN 61000-4-3 Fast Transients +/- 1 kV EN 61000-4-4 Surge protection +/- 1 kV EN 61000-4-5 RF conducted interference 10 V/ms EN 61000-4-6 Emission (at 10 m) 40 dB 30 MHz - 230 MHz CISPR 16-2-3	Relative humidity	0% - 95% non condensing			
Electro magnetic RF fields 10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz EN 61000-4-3 Fast Transients +/- 1 kV EN 61000-4-4 Surge protection +/- 1 kV EN 61000-4-5 RF conducted interference 10 V/rms EN 61000-4-6 Emission (at 10 m) 40 dB 30 MHz - 230 MHz CISPR 16-2-3	Immunity and emission for inc	Justrial environment			
3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz Fast Transients +/- 1 kV EN 61000-4-4 Surge protection +/- 1 kV EN 61000-4-5 RF conducted interference 10 V/rms EN 61000-4-6 Emission (at 10 m) 40 dB 30 MHz - 230 MHz CISPR 16-2-3	Electrostatic discharge	+/- 4 kV	EN 61000-4-2		
Surge protection+/- 1 kVEN 61000-4-5RF conducted interference10 V/msEN 61000-4-6Emission (at 10 m)40 dB 30 MHz - 230 MHzCISPR 16-2-3	Electro magnetic RF fields	3 V/m 1,4 GHz - 2,0 GHz	EN 61000-4-3		
RF conducted interference 10 V/rms EN 61000-4-6 Emission (at 10 m) 40 dB 30 MHz - 230 MHz CISPR 16-2-3	Fast Transients	+/- 1 kV	EN 61000-4-4		
Emission (at 10 m) 40 dB 30 MHz - 230 MHz CISPR 16-2-3	Surge protection	+/- 1 kV	EN 61000-4-5		
	RF conducted interference	10 V/rms	EN 61000-4-6		
	Emission (at 10 m)		CISPR 16-2-3		

Bus Network specific features

 $\mathbf{1} = \text{Network connector}, \mathbf{2} = \text{Baud rate}, \mathbf{3} = I/0 \text{ data}, \mathbf{4} = \text{other}$

CANopen	1 = DSUB9F, 2 = 10 kbit/s to 1 Mbit/s	
DeviceNet	$ 1 = 1x5p; 5.08 \ Phoenix plug, 2 = 125-500 \\ kbit/s, 3 = 255 \ Bytes IN/OUT, 4 = Communications adapter, profile n. 12 $	
EtherCAT	1 = 2xRJ45, 100 Mbit/s, $3 = 512$ Bytes IN/OUT	
EtherNet/IP	1 = 2xRJ45, $2 = 10/100$ Mbit/s, $3 = 1060Bytes IN/OUT, 4 = EtherNet/IP group 2 and 3server$	
Fast Ethernet	1 = 1xRJ45, 2 = 10 or 100 Mbit/s, 3 = 1024 Bytes IN/OUT	
LONWorks	1 = 4pin. screw connector, $2 = $ FTT-10A, 78 kBit/s, $3 = 512$ Bytes IN/OUT, 62 IN/OUT SNVTs	
Modbus TCP	1 = 1xRJ45, $2 = 10/100$ Mbit/s, $3 = 252$ Bytes IN/OUT, $4 = Class 0$, 1 and partially class 2 slave functionality	
MPI	1 =DSUB9F, 2 =adjustable via Script, $3=255$ Bytes IN/OUT	
PROFIBUS DP	1 = DSUB9F; 2 = Up to 12 Mb, 3 = 244 Bytes IN/OUT (488 total), 4 = PROFIBUS DP (IEC 61158)	
PROFINET 2Port	1=2xRJ45, 2=100 Mbit/s, 3=1440 Bytes IN/OUT, 4=RT Communication and Cyclic data exchange	
RS	$\label{eq:linear} \begin{array}{l} 1 = 1x3p. \mbox{ screw connector (RS232), 1x4p.} \\ \mbox{ screw connector (RS485/RS422) } \textbf{2} = 120 \mbox{ kbit/s} \\ \mbox{ (RS232), 625 kBaud (RS485/RS422) , } \textbf{3} = 1024 \\ \mbox{ Bytes IN/OUT} \end{array}$	



Network	ArtNo.		Network	ArtNo.		Network	ArtNo.		Network	ArtNo.	
CANopen	• V3554	• ≁ V3708	EtherNet/IP	• V3819	•≁V3861	ModbusTCP	• V3681	• ≁ V3862	PROFINET	• V3818	• 🗡 V3866
	• V3771	● ★ V3867	2Port	• V3879	● ℋ V3870		• V3778	● ℋ V3872	2Port	• V3859	● X V3877
DeviceNet	• V3555	• ≁ V3686	Fast	• V3611	• ≁ V3643	MPI	• V3556	• ≁ V3864	RS	• V3546	● X V3839
	• V3772	● X V3868	Ethernet	• V3775	● ℋ V3871		• V3779	● X V3874		• V3783	● X V3878
EtherCAT	• V3573	• ≁ V3860	LON-	• V3623	• ≁ V3863	PROFIBUS	• V3553	• ≠ V3649			
	• V3773	● X V3869	Works62	• V3776	● // V3873		• V3781	● X V3876			

Deutschmann standard

 H with galvanic isolation

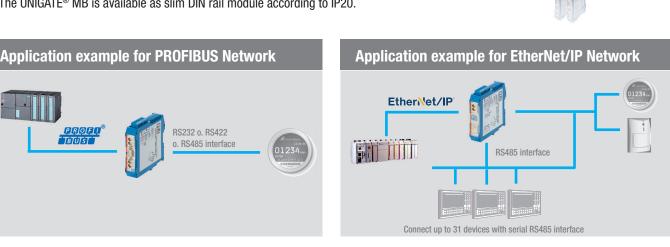
 Grey housing
 H with galvanic isolation

Protocol Converter UNIGATE® MB

For every device with Modbus RTU interface

The Deutschmann Protocol Converter UNIGATE® MB connects your device to the desired fieldbus or Industrial Ethernet standard via a serial interface. RS232, RS485 and RS422 interfaces are on Board as a standard feature of the MB.

The communication between the chosen system and the serial side can be carried out via Modbus RTU, Modbus ASCII as well as other common bus systems such as 3964(R). The UNIGATE® MB is available as slim DIN rail module according to IP20.



Typical industries

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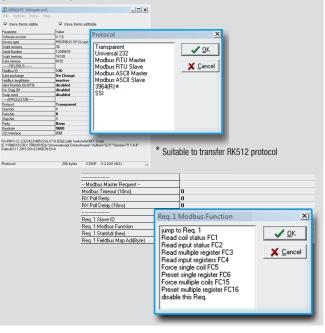
UNIGATE® MB - Features and benefits

- The UNIGATE® acts as either Master or Slave on the serial network when the Modbus RTU / ASCII protocol is converted
- Easy Modbus configuration via configuration tool WINGATE
- The MB allows any automation device with a serial RS232/422/485 Modbus RTU Master or Slave interface to participate on a network
- The MB is well compatible with PLCs from the worldwide leading manufacturers. E.g. Rockwell, Schneider Electric, Siemens, Beckhoff and many more
- No PLC function blocks are needed as the protocol conversion is performed via the UNIGATE®
- Once a configuration is completed it can be re-used for other installations
- Versions with Dual Port Ethernet switches allow for daisy chaining and eliminate the need for external switches
- Wide voltage range from 10 to 33 VDC

Configuration tool WINGATE



WINGATE is a Deutschmann developed configuration software for the UNIGATE[®] series. The Windows[™] based software with an easy- to-use interface requires no programming and the device configuration can be finished in just a few steps.



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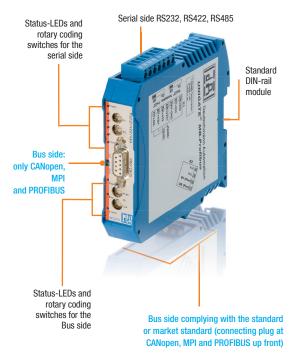
UNIGATE [®] MB					
Protocol	Modbus RTU Master/Slave, Modbus ASCII Master/Slave, RKI512, 3964R, Universal 232, DIN Messbus				
Max. stations	31 (with RS485/422)				
Baud rates	110 Baud - 625 KBaud				
Physical standards	RS232/422/485				
Modbus commands	0x01 Read Coils, 0x02 Read Discrete Inputs, 0x03 Read Holding Registers 0x04 Read Input Registers, 0x05 Write Single Coil, Write Single Register, 0 Write Multiple Coils, 0x10 Write Multiple Registers Customized commands can be created.				
Technical Details		Standard			
Weight	approx. 140 g				
Dimensions (LxWxD)	111x23x117 mm				
Protection class	IP20	Protection against foreign bodies and water to IEC 529 (DIN 40050)			
Housing material	Polyamide				
Installation position	Any				
Location	Switch cabinet				
Mounting	DIN rail	EN 50022			
CE	2014/30/EU	EN61000-6-2 Immunity EN55011 class A Emission			
RoHS		RoHS II Directive 2011/65/EU			
REACH	downstream user				
Electrical Characteristics					
External power supply	1033 V DC				
Current consumption at 24 VDC	Typ. 120 mA, max. 150 mA. (At 10.8 V. typ. 350 mA)				
Hardware Characteristics					
Short-circuit protection	Yes				
Galvanic isolation on sub- network	Yes				
Environmental Characteristic					
Operating temperature	-40°C +85°C, variants with RJ45 socket: -25°C +85°C				
Storage temperature	-40°C +85°C				
Relative humidity	0% - 95% non condensing				
Immunity and emission for in	dustrial environment				
Electrostatic discharge	+/- 4 kV	EN 61000-4-2			
Electro magnetic RF fields	10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz	EN 61000-4-3			
Fast Transients	+/- 1 kV	EN 61000-4-4			
Surge protection	+/- 1 kV	EN 61000-4-5			
RF conducted interference	10 V/rms	EN 61000-4-6			
Emission (at 10 m)	40 dB 30 MHz - 230 MHz 47 db 30 MHz - 1 GHz	CISPR 16-2-3			

Network	ArtNo.	Network	ArtNo.
CANopen	V4025	PROFIBUS	V3978
DeviceNet	V3980	PROFINET 2Port	V3979
EtherCAT	V4026		
EtherNet/IP 2Port	V3981		
Modbus TCP	V3982		
MPI	V4027		

Bus Network specific features

 $\mathbf{1} = \text{Network connector}, \mathbf{2} = \text{Baud rate}, \mathbf{3} = I/0 \text{ data}, \mathbf{4} = \text{other}$

CANopen	1 = DSUB9F, 2 = 10 kbit/s to 1 Mbit/s, 3 = 255 Bytes IN/OUT			
DeviceNet	1=1x5p;5.08 Phoenix plug, $2=125-500$ kbit/s, $3=255$ Bytes IN/OUT, $4=$ Communications adapter, profile n. 12			
EtherCAT	1 = 2xRJ45, 100 Mbit/s			
EtherNet/IP	1 =2xRJ45, 2 =10/100 Mbit/s, 3 =1060 Bytes IN/OUT, $4=EtherNet/IP$ group 2 and 3 server.			
Modbus TCP	1 = RJ45, 2 = 10/100 Mbit/s, $3 = 252$ Bytes IN/OUT, $4 = Class 0, 1$ and partially class 2 slave functionality			
MPI	1 = DSUB9F, 3 = 255 Bytes IN/OUT			
PROFIBUS	1 = DSUB9F, 2 = Up to 12 Mb, 3 = 244 Bytes IN/OUT (488 total), 4 = PROFIBUS DP (IEC 61158)			
PROFINET 2Port	1 = 2xRJ45, $2 = 100$ Mbit/s, $3 = 1024$ Bytes IN/OUT, $4 = RT$ Communication and Cyclic data exchange			
More ve	More versions on available on request.			



UNIGATE® CM - Easily configurable, ready-to-use Gateways

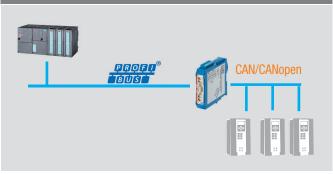
CAN/CANopen to all Fieldbuses and Industrial Ethernet

The UNIGATE[®] CM Gateways connect CAN/CANopen-Participants to all Fieldbus- and Industrial Ethernet systems that are supported by Deutschmann.

Besides RS232, RS485 and RS422 standard interfaces, the UNIGATE[®] CM CANopen Gateway has an additional CAN/CANopen interface with Mini-Master functionality. Hence, the gateways can connect both CANopen networks and individual CANopen devices into higher-level networks.

With the Deutschmann developed software WINGATE, the reliable components can be quickly and easily configured and immediately be put into operation.

Application example for PROFIBUS Network





Typical industries



UNIGATE® CM - Features and benefits

- Additional CAN/CANopen interface with Mini-Master functionality
- Easy configuration with Software tool WINGATE
- Data for CAN is exchanged via configurable protocols
- Data exchange for CANopen is handled via CANopen mapping
- Transport protocols are available for CAN Layer 2 (11/29Bit Identifier). The transport protocols support CAN 2.0A (11Bit Identifier) or CAN 2.0B (11/29Bit Identifier)
- Adjustable configuration values are context-sensitive displayed, dependent on the selected function parameters
- The CM is well compatible with PLCs from the worldwide leading manufacturers. E.g. Rockwell, Siemens, Schneider Electric, Beckhoff and more.
- More Flexibility with free programming via Protocol Developer (Deutschmann Script language)
- Slim DIN-rail module
- Brand labeling, pre-configured according to the customer
- Option I/O8 available on request 8 additional digital I/ Os (24 V). Connectable via configuration or via Script

Configuration tool WINGATE

WINGATE is a Deutschmann developed configuration software for the UNIGATE[®] series. The implementation of the CAN/CANopen onto the industrial network is configured with WINGATE.

Parameter	Value	•	
oftware Revision	V 8.1		Example for
)evice type	CM-PROFIBUS		
cript revision	42		UNIGATE [®] CM-PBDPV1
Serial Number	12345678		
cript memory	16128		
) ata memory	16384	(CM) Transport protocol	×
CM			
CM) Transport protocol	Layer 2 11Bit	CANopen Mapping	
CM) CAN Baudrate	125 kbs	Layer 2 11Bit	
FIELDBUS		Universal (L2 11Bit)	X Cancel
ieldbus ID	126	Universal (L2 11Bit) with COB-ID used Universal (L2 11/29Bit)	
······ Diagnose ······		Universal (L2 11/29Bit) with COB-ID used	
)iag-Monitor Application port	disabled	L2 11Bit (Tal+FBlen)	
		lee	
	77.0.0f001(.).W.C	2 L 0 0055 0 11	
S-PBV1-CL (232/422/485/SSI) \	V7.8.3[36] (C)0A SV Iniversalscrint Deul	tschmann" Author="G/S" Version="V 1.4.4"	

Protocol Developer - Script language

Ess:

More complex applications, which cannot be presented via configuration can be programmed via the Deutschmann Script language. The Protocol Developer generates the Script. It is easy to use and optimized for the bus communication. You can program the Script yourself or hire Deutschmann to do so for you.

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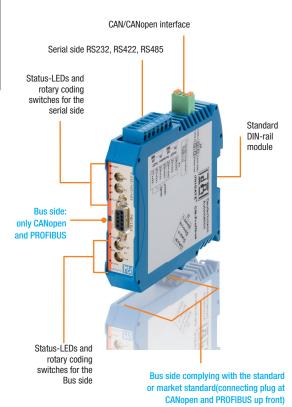
UNIGATE [®] CM				
Protocol	CANopen Mapping, Layer 2 11Bit, Universal (L2 11Bit), Universal (L2 11/29Bit) (More protocols available on request)			
Max. stations	31 (with RS485/422)			
Baud rates	110 Baud bis 520 kBaud resp. 625 kl 10/100 MBit/s for Ethernet	Baud (depending on version) for serial,		
Physical standards	RS232/422/485			
Modbus commands				
Technical Details		Standard		
Weight	approx. 160 g			
Dimensions (LxWxD)	115x23x116 mm			
Protection class	IP20	Protection against foreign bodies and water to IEC 529 (DIN 40050)		
Housing material	Polyamide			
Installation position	Any			
Location	Switch cabinet			
Mounting	DIN rail	EN 50022		
Certifications				
RoHS		RoHS II Directive 2011/65/EU		
REACH	downstream user			
Electrical Characteristics				
External power supply	1033 V DC			
Current consumption at 24 VDC	Typ. 160 mA, max. 200 mA. (At 10.8 V. typ. 350 mA)			
Hardware Characteristics				
Short-circuit protection	Yes			
Galvanic isolation on sub- network	Yes			
Environmental Characteristi				
Operating temperature	-40°C +85°C, variants with RJ45 socket: -25°C +85°C			
Storage temperature	-40°C +85°C			
Relative humidity	0% - 95% non condensing			

Network	ArtNo.	Network	ArtNo.
CANopen	V3990	PROFIBUS	V3988
DeviceNet	V3983	PROFINET 2Port	V3989
EtherCAT	V3984		
EtherNet/IP 2Port	V3985		
Fast Ethernet	V3986		
Modbus TCP	V3987		

Bus Network specific features

 $\mathbf{1} = \text{Network connector}, \mathbf{2} = \text{Baud rate}, \mathbf{3} = I/0 \text{ data}, \mathbf{4} = \text{other}$

CANopen	1 = DSUB9F, 2 = 10 kbit/s to 1 Mbit/s
DeviceNet	1=1x5p;5.08 Phoenix plug, $2=125-500$ kbit/s, $3=255$ Bytes IN/OUT, $4=$ Communications adapter, profile n. 12
EtherCAT	1 = 2xRJ45, 100 Mbit/s
EtherNet/IP	1=2xRJ45, 2=10/100 Mbit/s, $3=1060$ Bytes IN/OUT, $4=$ EtherNet/IP group 2 and 3 server
Fast Ethernet	1 = 1xRJ45, 2 = 10 or 100 Mbit/s, 3 = 1024 Bytes IN/OUT
Modbus TCP	1 = RJ45, $2 = 10/100$ Mbit/s, $3 = 252$ Bytes IN/OUT, $4 = Class 0$, 1 and partially class 2 slave functionality
PROFIBUS DP	1 = DSUB9F, 2 = Up to 12 Mb, 3 = 244 Bytes IN/OUT (488 total), 4 = PROFIBUS DP (IEC 61158)
PROFINET 2Port	1=2xRJ45, 2=100 Mbit/s, $3=1440$ Bytes IN/OUT, $4=RT$ Communication and Cyclic data exchange
More v	rersions available on request.

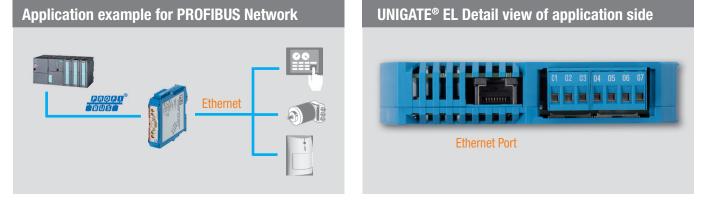


UNIGATE® EL - Enables quick configuration of Ethernet/Fieldbus Gateways Ethernet to various Fieldbuses and Industrial Ethernet

The UNIGATE $^{\otimes}$ EL Gateways connect Ethernet-Participants to all Fielbus- and Industrial Eterhnet systems supported by Deutschmann.

In addition to RS232, RS485 and RS422 standard interfaces, the UNIGATE[®] EL also provides a Fast Ethernet interface. After entering the network-specific data, such as IP address, the device is immediately ready for use for communication via Modbus TCP. If another transport protocol is used for communication, easy configuration follows via configuration tool WINGATE. Adjustable parameters are context-sensitive displayed, dependent on the changed transport protocol.





Typical industries

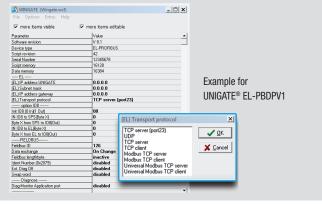


UNIGATE® EL - Features and benefits

- Fast Ethernet-, RS232-, RS485- and RS422 interface are on Board
- Easy configuration with Software tool WINGATE
- Data is exchanged through configurable protocols
- Available transport protocols: TCP server (port23), UDP, TCP server, TCP client, Modbus TCP server, Modbus TCP client, Universal Modbus TCP server, Universal Modbus TCP client
- Adjustable configuration values are context-sensitive displayed, dependent on the selected function parameters
- The EL is well compatible with PLCs from the worldwide leading manufacturers. E.g. Rockwell, Siemens, Schneider Electric, Beckhoff and more.
- More Flexibility with free programming via Protocol Developer (Deutschmann Script language)
- Wide voltage range from 10 to 33 VDC
- Slim DIN-rail module
- Brand labeling, pre-configured according to the customer
- Option I/08 available on request 8 additional digital I/0s (24 V). Connectable via configuration or via Script

Configuration tool WINGATE

The UNIGATE[®] EL has transport Protocols for Ethernet. These can be configured quickly and conveniently using the WINGATE configuration Software. Upon delivery the EL is pre-configured and set to transport protocol TCP server (port23).



Protocol Developer - Script language

IR.S

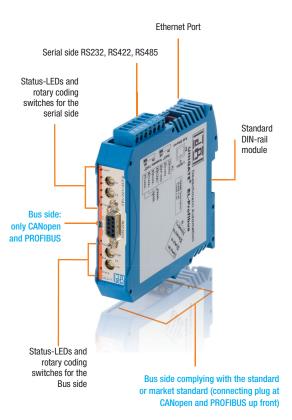
More complex applications, which cannot be presented via configuration can be programmed via the Deutschmann Script language. The Protocol Developer generates the Script. It is easy to use and optimized for the bus communication. You can program the Script yourself or hire Deutschmann to do so for you.

UNIGATE [®] EL							
Protocol	UDP, TCP/IP (Client/server), Modbus T	CP (Client/server)					
Max. stations	31 (with RS485/422)	31 (with RS485/422)					
Baud rates	110 Baud bis 520 kBaud resp. 625 kl 10/100 MBit/s for Ethernet	110 Baud bis 520 kBaud resp. 625 kBaud (depending on version) for serial, 10/100 MBit/s for Ethernet					
Physical standards	RS232/422/485	RS232/422/485					
Modbus commands	0x01 Read Coils, 0x02 Read Discrete Inputs, 0x03 Read Holding Registers, 0x04 Read Input Registers, 0x05 Write Single Coil, Write Single Register, 0x0F Write Multiple Coils, 0x10 Write Multiple Registers Customized commands can be created.						
Technical Details		Standard					
Weight	approx. 160 g						
Dimensions (LxWxD)	111x23x117 mm						
Protection class	IP20	Protection against foreign bodies and water to IEC 529 (DIN 40050)					
Housing material	Polyamide						
Installation position	Any						
Location	Switch cabinet						
Mounting	DIN rail	EN 50022					
RoHS		RoHS II Directive 2011/65/EU					
REACH	downstream user						
Electrical Characteristics							
External power supply	1033 V DC						
Current consumption at 24 VDC	Typ. 160 mA, max. 200 mA. (At 10.8 V. typ. 350 mA)						
Hardware Characteristics							
Short-circuit protection	Yes						
Galvanic isolation on sub- network	Yes						
Environmental Characteristic	s						
Operating temperature	-40°C +85°C, variants with RJ45 socket: -25°C +85°C						
Storage temperature	-40°C +85°C						
Relative humidity	0% - 95% non condensing						

Bus Network specific features

 $\mathbf{1} = \text{Network connector}, \mathbf{2} = \text{Baud rate}, \mathbf{3} = I/0 \text{ data}, \mathbf{4} = \text{other}$

CANopen	1 = DSUB9F, 2 = 10 kbit/s to 1 Mbit/s			
DeviceNet	$ 1 = 1x5p; 5.08 \ Phoenix \ plug, 2 = 125-500 \\ kBaud, 3 = 255 \ Bytes \ IN/OUT, \\ 4 = Communications \ adapter, \ profile \ n. \ 12 $			
EtherCAT	1 = 2xRJ45, 100 Mbit/s			
EtherNet/IP	1 =2xRJ45, 2 =10/100 Mbit/s, $3=1536$ Bytes IN/OUT, $4=$ EtherNet/IP group 2 and 3 server.			
PROFIBUS	1 = DSUB9F, 2 = Up to 12 Mb, 3 = 244 Bytes IN/OUT (488 total), 4 = PROFIBUS DP (IEC 61158)			
PROFINET 2Port	1=2xRJ45, 2=100 Mbit/s, 3=1536 Bytes IN/OUT, $4=RT$ Communication and Cyclic data exchange			
More versions available on request.				



Network	ArtNo.
CANopen	V3991
DeviceNet	V3992
EtherCAT	V3993
EtherNet/IP 2Port	V4039
PROFIBUS	V3994
PROFINET	V4017

UNIGATE® CX - The flexible connection

Making incompatible networks compatible

Various fieldbuses and Industrial Ethernet standards have taken over in the automation industry. The challenge of connecting these incompatible communication systems remains a big one.

UNIGATE® CX DIN rail modules have been developed precisely for this purpose. The units combine various fieldbus and Industrial Ethernet interfaces.

Quasi-uniting two UNIGATE[®] CL in a modular setup, UNIGATE[®] CXs are available for any fieldbus/ Ethernet combination. Currently there are about 120 variants available - the numbers of available options are still rising.

Application example for connecting networks



Connect different networks e.g. EtherNet/IP to PROFIBUS DP

Typical industries



Example fo

UNIGATE®

UNIGATE® CX - Features and benefits

- Consistency for each bus
- Additional Fieldbus mechanism
- Built-in isolation on the bus-side
- Easy configuration with Software tool WINGATE
- Data is exchanged through configurable protocols
- Upon delivery, the module is preconfigured (except for the IP address) and has Scripts for transparent data exchange. Exception: The variants with LONWorks are not configurable
- More Flexibility with free programming via Protocol Developer (Deutschmann Script language)
- No Hardware or Software adjustments for your device needed
- The CX is well compatible with PLCs from the worldwide leading manufacturers. E.g. Rockwell, Siemens, Schneider Electric, Beckhoff and more
- Additional Debug interface on Board
- Wide voltage range from 10 to 33 VDC
- Brand labeling, pre-configured according to the customer

Configuration tool WINGATE

WINGATE is a Deutschmann developed configuration software for the UNIGATE[®] series. With UNIGATE[®] CX you only have to configure the fieldbus specific parameters of both Fieldbuses/Industrial Ethernet.

File Options Extras He	
more items visible	more items editable
Parameter	Value
Software revision	V 5.4
Device type	Fast Ethernet(Script)
Script revision	39
Serial Number	12345678
Script memory	16128
Data memory	8192
FIELDBUS	
DHCP	disabled
IP address UNIGATE	0.0.0
Subnet mask	0.0.0.0
IP address Gateway	0.0.0.0
Transport protocol	TCP server
Send port (dec)	0
Receive port (dec)	0
Blocklength fieldbus input	8
Blocklength fieldbus output	8
Data exchange	On Event
Fieldbus lengthbyte	inactive
Swap word	disabled

Protocol Developer - Script language

More complex applications, which cannot be presented via configuration can be programmed via the Deutschmann Script language. The Protocol Developer generates the Script. It is easy to use and optimized for the bus communication. You can program the Script yourself or hire Deutschmann to do so for you.



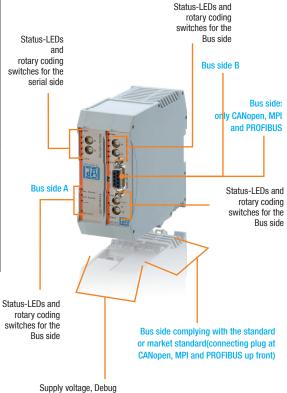
UNIGATE [®] CX		
Protocols configurable	Modbus RTU Master/Slave, Modbus A rent, Universal 232	SCII Master/Slave, 3964(R)*, Transpa-
more protocols via Script	DIN Messbus Customized protocols can be created	via Script
Baud rates	110 Baud - 625 KBaud	· · ·
Modbus commands		
Technical Details		Standard
Weight	approx. 200 g	
Dimensions (LxWxD)	106x46x117 mm (incl. all possible connectors)	
Protection class	IP20	Protection against foreign bodies and water to IEC 529 (DIN 40050)
Housing material	Polyamide	
Installation position	Any	
Location	Switch cabinet	
Mounting	DIN rail	EN 50022
Certifications		
CE	2014/30/EU	EN61000-6-2 Immunity EN55011 class A Emission
RoHS		RoHS II Directive 2011/65/EU
REACH	downstream user	
Electrical Characteristics		
External power supply	1033 V DC	
Current consumption at 24 VDC	Typ. 120 mA, max. 150 mA. (At 10.8 V. typ. 350 mA)	
Hardware Characteristics		
Short-circuit protection	Yes	
Galvanic isolation on sub- network	Yes	
Environmental Characteristics	;	
Operating temperature	-40°C +85°C, variants with RJ45 socket: -25°C +85°C	
Storage temperature	-40°C +85°C	
Relative humidity	0% - 95% non condensing	
Immunity and emission for inc	dustrial environment	
Electrostatic discharge	+/- 4 kV	EN 61000-4-2
Electro magnetic RF fields	10 V/m 80 MHz - 1 GHz 3 V/m 1,4 GHz - 2,0 GHz 1 V/m 2,0 GHz - 2,7 GHz	EN 61000-4-3
Fast Transients	+/- 1 kV	EN 61000-4-4
Surge protection	+/- 1 kV	EN 61000-4-5
RF conducted interference	10 V/rms	EN 61000-4-6
Emission (at 10 m)	40 dB 30 MHz - 230 MHz 47 db 30 MHz - 1 GHz	CISPR 16-2-3

Bus	side A	Bus	Bus side B		
Network Network		Network	Network		
CANopen	Modbus TCP	CANopen	Modbus TCP		
DeviceNet	MPI	DeviceNet	MPI		
EtherCAT	PROFIBUS	EtherCAT	PROFIBUS		
EtherNet/IP 2Port	PROFINET	EtherNet/IP 2Port	PROFINET		
Fast Ethernet		Fast Ethernet			
LONWorks62		LONWorks62			

Bus Network specific features

 $\mathbf{1} = \text{Network connector}, \mathbf{2} = \text{Baud rate}, \mathbf{3} = I/0 \text{ data}, \mathbf{4} = \text{other}$

CANopen	1 = DSUB9F, 2 = 10 kbit/s to 1 Mbit/s
DeviceNet	$\label{eq:linear} \begin{array}{l} 1 = 1 x 5 p; 5.08 \mbox{ Phoenix plug}, \mbox{2} = 125 \mbox{-}500 \mbox{$kbit/s$}, \mbox{3} = 255 \mbox{ Bytes IN/OUT}, \mbox{4} = \mbox{Communications adapter, profile n. } 12 \end{array}$
EtherCAT	1 = 2xRJ45, 100 Mbit/s, 3 = 512 Bytes IN/OUT
EtherNet/IP	1 =2xRJ45, 2 =10/100 Mbit/s, 3 =1060 Bytes IN/OUT, $4=EtherNet/IP$ group 2 and 3 server
Fast Ethernet	1 = 1xRJ45, 2 = 10 or 100 Mbit/s, 3 = 1024 Bytes IN/OUT
LONWorks	1 = 4pin. screw connector, 2 = FTT-10A, 78 kBit/s, 3 = 512 Bytes IN/OUT, 62 IN/OUT SNVTs
Modbus TCP	$\label{eq:linear} \begin{array}{l} \textbf{1} = 1xRJ45, \textbf{2} = 10/100 \text{ Mbit/s}, \textbf{3} = 252 \text{ Bytes} \\ \text{IN/OUT, } \textbf{4} = \text{Class } 0, 1 \text{ and partially class } 2 \\ \text{slave functionality} \end{array}$
MPI	1 = DSUB9F, $2 = adjustable via Script$, $3 = 255Bytes IN/OUT$
PROFIBUS	1 = DSUB9F, 2 = Up to 12 Mb, 3 = 244 Bytes IN/OUT (488 total), 4 = PROFIBUS DP (IEC 61158)
PROFINET 2Port	1 = 2xRJ45, $2 = 100$ Mbit/s, $3 = 1440$ Bytes IN/OUT, $4 = RT$ Communication and Cyclic data exchange
RS	$\begin{array}{l} 1 = 1 x 3 p. \ screw \ connector \ (RS232), \ 1 x 4 p. \\ screw \ connector \ (RS485/RS422) \ \textbf{2} = 120 \ kbit/s \\ (RS232), \ 625 \ kBaud \ (RS485/RS422) \ \textbf{3} = 1024 \\ Bytes \ IN/OUT \end{array}$



Supply voltage, Debug interface, Serial interface

UNIGATE® - Protocol Matrix - General overview

UNIGATE®		CAN	open	DeviceNet	EtherCAT	EtherNet/IP		ernet P/IP	LONWorks 62	Mod RTU +	
		Master	Slave	Slave	Slave	Slave	Client	Server	Slave	Master	
CANopen	Master	СМ	СМ	СМ	СМ	СМ	СМ	СМ	СХ	CL	
олнорен	Slave	СМ	СМ	СМ	СМ	СМ	CM CX	CM CX	CX	CL	
			СХ	СХ	СХ	CX	EL	EL		MB	
DeviceNet	Slave	СМ	СМ	СХ	СХ	СХ	СХ	СХ	СХ	CL	
			СХ				EL	EL		MB	
EtherCAT	Slave	СМ	СМ	СХ	СХ	СХ	CX	CX	СХ	CL	
			СХ				EL	EL		MB	
EtherNet/IP	Slave	СМ	СМ	СХ	СХ	СХ	СХ	СХ	СХ	CL	
			СХ				EL	EL		MB	
	Client	СХ	CM CX	СХ	СХ	СХ	СХ	CX CX	СХ	CL	
Ethernet TCP/IP			EL	EL	EL	EL				MB	
167/12	Server	СХ	CM CX	СХ	СХ	CX	СХ	СХ	СХ	CL	
			EL	EL	EL	EL				MB	
LONWorks	Slave	СМ	СХ	СХ	СХ	СХ	СХ	СХ	СХ	CL	
	Master	CL	CL	CL	CL	CL	CL MB	CL	CL	CL	
Modbus	IVIdStel		MB	MB	MB	MB		MB		UL	
RTU + ASCII	Slave	CL	CL	CL	CL	CL	CL	CL	CI	CL	
	Slave	UL	MB	MB	MB	MB	MB	MB	CL	UL	
Modbus TCP	Client	СХ	EL	EL	EL	EL	СХ	СХ	СХ	CL	
MOUDUS TOP	Corvor	CX	СХ	СХ	-		СХ	CX	CV	CL	
	Server	υX	EL	EL	EL	EL	υX	6.0	СХ	MB	
MPI	Oleve	CX	СХ	CV	CV	CV	CV.	CV	CV	CL	
MPI	Slave	υX	υX	СХ	СХ	CX	СХ	CX	СХ	MB	
DDAEIDUG	Clove	CM	СМ	CV	CV	CV	СХ	СХ	CV	CL	
PROFIBUS	Slave	СМ	СХ	СХ	СХ	CX	EL	EL	CX	MB	
DDOFINET	Clave	CM	СМ	CV.	OV	OV	СХ	СХ	OV	CL	
PROFINET	Slave	СМ	СХ	CX	СХ	CX	EL	EL	CX	MB	
Transparent			CL CL	CL	CL	CL	CL	OL	01		
Universal 232		CL	MB	MB	MB	MB	MB	MB	CL	CL	
2064(D)		1	CL	CL	CL	CL	CL	CL	1	,	
3964(R)		/	MB	MB	MB	MB	MB	MB		/	
SSI-Protocol	Client	CI	CL	CL	CL	CL	CL	CL	CL	CL	
551-PT010C01	Client CL	Glient	UL UL	MB	MB	MB	MB	MB	MB	UL	UL



bus ASCII	Modbi	us TCP	MPI	PROFIBUS	PROFINET	Transparent Universal 232	3964(R)	SSI- Protocol	
Slave	Client	Server	Slave	Slave	Slave	Slave		Client	
CL	СХ	СХ	СХ	СМ	СМ	CL	CL	CL	
CL	EL	СХ	СХ	СМ	СМ	CL	CL	CL	
MB		EL	0/1	СХ	СХ	MB	MB	MB	
CL	EL	СХ	СХ	СХ	СХ	CL	CL	CL	
MB		EL	0/	0/1		MB	MB	MB	
CL	EL	EL	СХ	СХ	СХ	CL	CL	CL	
MB		LL	UX	UX	UA	MB	MB	MB	
CL	EL	EL	СХ	СХ	СХ	CL	CL	CL	
MB			67	67	67	MB	MB	MB	
CL	OV	OV	OV	СХ	CX	CL	CL	CL	
MB	CX	СХ	CX	EL	EL	MB	MB	MB	
CL	<u></u>			СХ	СХ	CL	CL	CL	
MB	CX	СХ	CX	EL	EL	MB	MB	MB	
CL	СХ	СХ	СХ	СХ	СХ	CL	CL	CL	
01		CL	CL	CL	CL				
CL	CL	MB	MB	MB	MB	CL	CL	CL	
			CL	CL	CL			01	
CL	CL	CL	MB	MB	MB	CL	CL	CL	
CL	СХ	СХ	CL	EL	EL	CL	CL	CL	
01	OV	OV	CV.	СХ	CX	CL	CL	CI	
CL	СХ	СХ	CX	EL	EL	MB	MB	CL	
CL		O 14	<u></u>	<u></u>	01/	CL	CL	CL	
MB	CL	СХ	СХ	CX	СХ	MB	MB	MB	
CL		СХ				CL	CL	CL	
MB	EL	EL	CX	CX	CX	MB	MB	MB	
CL		СХ				CL	CL	CL	
MB	EL	EL	CX	CX	CX	MB	MB	MB	
		CL	CL	CL	CL				
CL	CL	MB	MB	MB	MB	CL	CL	CL	
		CL	CL	CL	CL			/	
/	/	MB	MB	MB	MB	/	/ /		
			CL	CL	CL				
CL	CL	CL	MB	MB	MB	CL	/	/	
				NID	MID				

Explanation Colours:

Devices can be configured	
Devices can be programmed by Deutschmann Script language	1
Devices can be configured as well programmed by Deutschmann Sci language	

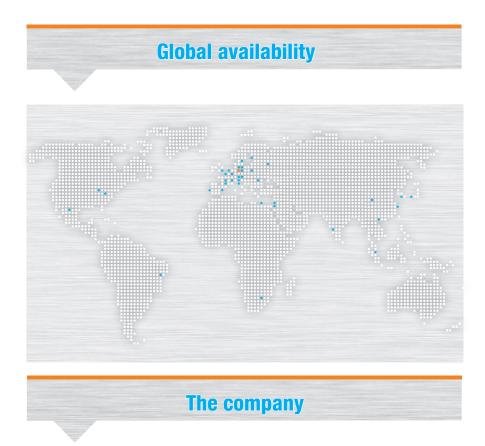
UNIGATE® series:

UNIGATE®	CL
UNIGATE®	СМ
UNIGATE®	СХ
UNIGATE®	EL
UNIGATE®	MB

UNIGATE® Product Finder



E® versions and article labels can be found at: www.deutschmann.com



Deutschmann Automation, a german company based in Bad Camberg is working in the automation technology since 1976 and became known with cam controls in the 1980s.

In 1989 Deutschmann Automation started operating in the fieldbus technology. The development of one's first own bus system DICNET was an essential step. Since 1996 different fieldbus and Industrial Ethernet products are offered under the brand name UNIGATE®.

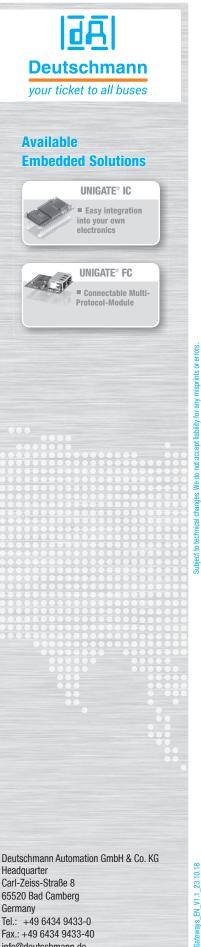
Thanks to a competent quality management and continuous enhancement Deutschmann became one of the leading suppliers in the automation industry. The entire development and manufacturing takes place in Germany.

We offer workshops for our All-In-One Bus nodes of the UNIGATE® IC series and the Software tool Protocol Developer. In these workshops you will learn everything you need to know about our products and how you can easily realize your projects with Deutschmann.

For all products the necessary documents and tools can be found, free of cost, on www. deutschmann.com. Furthermore on the Deutschmann Technology Wiki,

wiki.deutschmann.de, technological information is easily accessible for our customers and users, cross-linking application know-how and ensuring that the information is up to date.

Our experts in development, sales and support have the right solution for your demands.



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