FLEXIBLE GATEWAYS FOR INDUSTRIAL COMMUNICATION

- Easy installation
- Norm compliant
- Ready-to-use
- Configurable
- Programmable
- Designed & manufactured in Germany

CANopen · DeviceNet · EtherCAT · EtherNet/IP · ETHERNET TCP/IP · LONWorks

Modbus · MODBUS TCP · MPI · PROFIBUS · PROFINET

Deutschmann
your ticket to all buses

Protocol Converter | Embedded Solutions | Gateways

Deutschmann Automation

Deutschmann Automation, the specialist for industrial data communication, is a medium-sized 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 pre-configure 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.

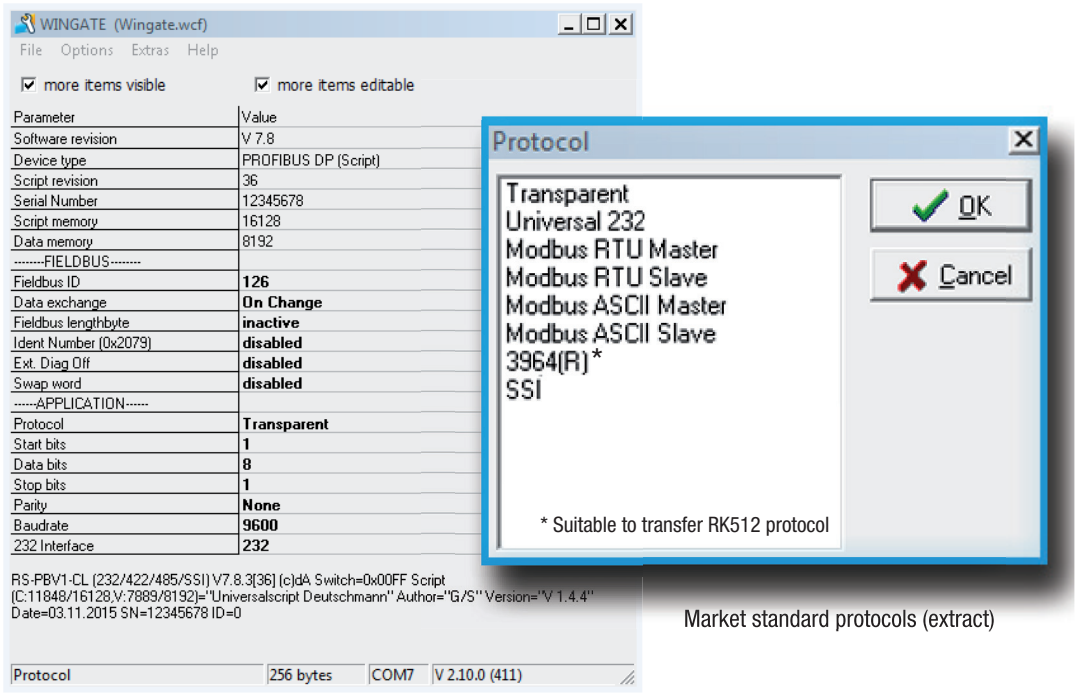
Michael M. Reiter, General Manager Marketing and Sales, says: „Today, our company stands for innovative strength in the development of new network components and solutions for a wide range of applications - while at the same time providing consistency in our product range and comprehensive customer support“.

Inhalt

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.

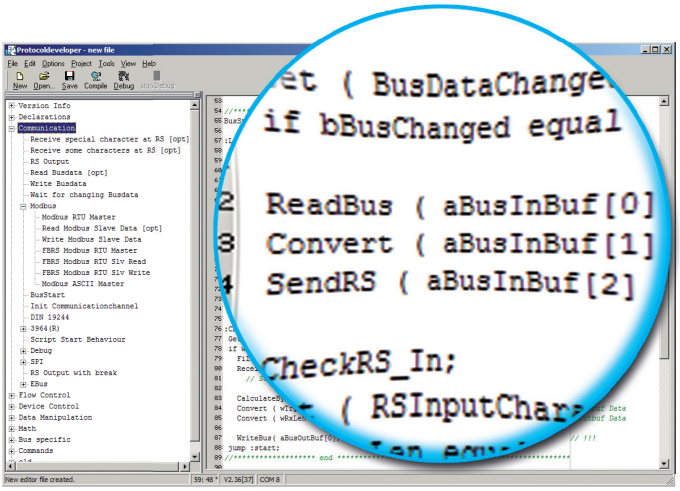


Market standard protocols (extract)

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

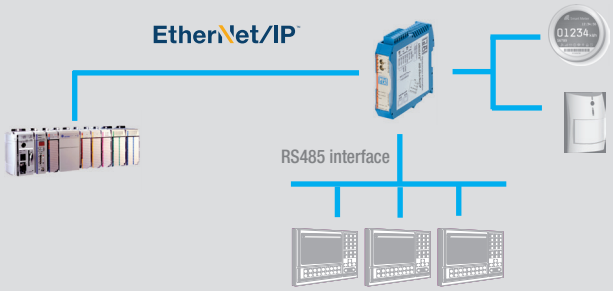
For all devices with a serial interface

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.

Application example for single-drop connection

Application example for multi-drop connection



Connect up to 31 devices with serial RS485 interface

Typical industries

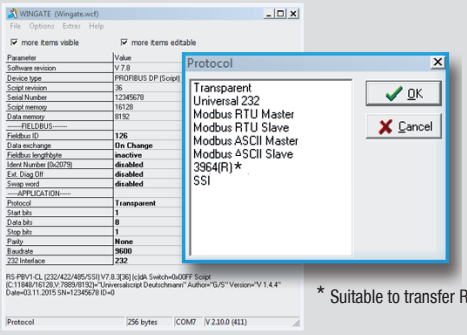
Water waste management · Display Systems · Drive Technology · Automotive · Energy · Factory Automation · Building Automation · Air Conditioning Systems · Shipping Industry · Traffic & Transportation Technology

UNIGATE® CL - Features and benefits

- RS232, RS485- and RS422 interfaces
- The CL is well compatible with PLCs from the world-wide 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.



* Suitable to transfer RK512 protocol

Protocol Developer - Script language

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.

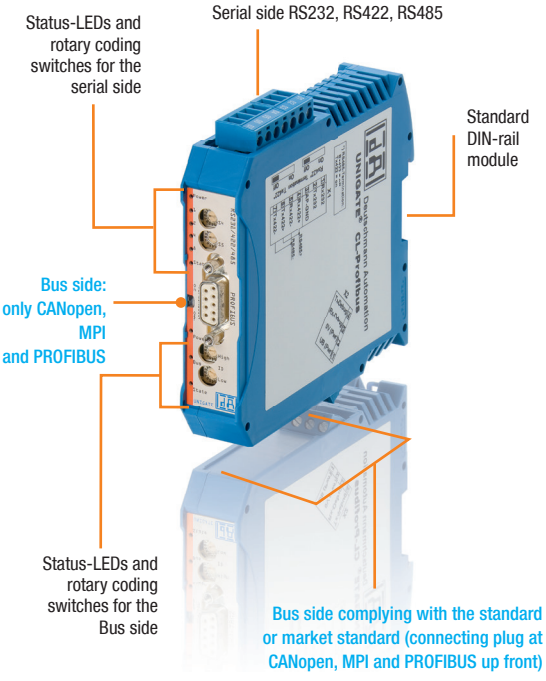
Technical data

UNIGATE® CL		
Protocols *configurable*	Modbus RTU Master/Slave, Modbus ASCII Master/Slave, 3964(R)*, Transparent, Universal 232	
more protocols via Script	DIN Messbus Customized protocols can be created via Script	
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, 0x0F 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
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	10..33 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 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/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 Network specific features

1 = Network connector, **2** = Baud rate, **3** = I/O data, **4** = 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** = 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	**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	**1** = 1x3p. screw connector (RS232), 1x4p. screw connector (RS485/RS422) **2** = 120 kbit/s (RS232), 625 kBaud (RS485/RS422) , **3** = 1024 Bytes IN/OUT



Network	Art.-No.		Network	Art.-No.		Network	Art.-No.		Network	Art.-No.	
CANopen	● V3554	●↗ V3708	EtherNet/IP 2Port	● V3819	●↗ V3861	ModbusTCP	● V3681	●↗ V3862	PROFINET 2Port	● V3818	●↗ V3866
	● V3771	●↗ V3867		● V3879	●↗ V3870		● V3778	●↗ V3872		● V3859	●↗ V3877
DeviceNet	● V3555	●↗ V3686	Fast Ethernet	● V3611	●↗ V3643	MPI	● V3556	●↗ V3864	RS	● V3546	●↗ V3839
	● V3772	●↗ V3868		● V3775	●↗ V3871		● V3779	●↗ V3874		● V3783	●↗ V3878
EtherCAT	● V3573	●↗ V3860	LON-Works62	● V3623	●↗ V3863	PROFIBUS	● V3553	●↗ V3649			
	● V3773	●↗ V3869		● V3776	●↗ V3873		● V3781	●↗ V3876			

● Deutschmann standard
●↗ with galvanic isolation
● Grey housing
●↗ with galvanic isolation

* Suitable to transfer RK512 protocol

Protocol Converter UNIGATE® MB

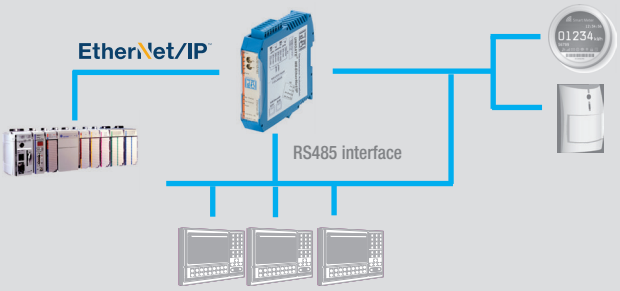
For every device with Modbus RTU interface

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.

Application example for PROFIBUS Network

Application example for EtherNet/IP Network



Connect up to 31 devices with serial RS485 interface

Typical industries

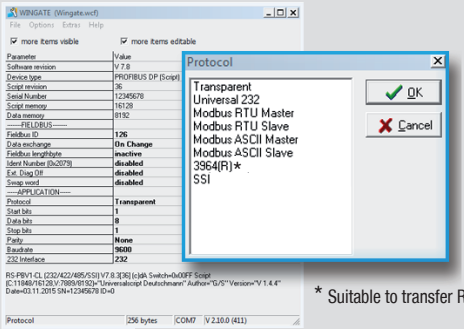
Water waste management · Display Systems · Drive Technology · Automotive · Energy · Factory Automation · Building Automation · Air Conditioning Systems · Shipping Industry · Traffic & Transportation Technology

UNIGATE® MB - Features and benefits

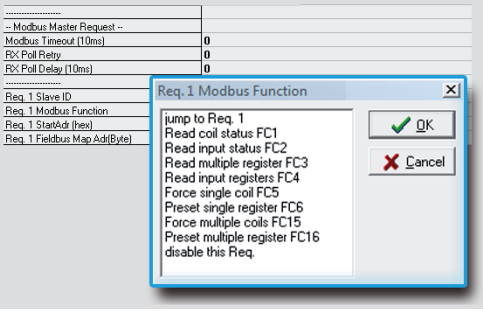
- The UNIGATE® acts as either Master or Slave on the serial network when the Modbus RTU / ASCII protocol is converted
- Easy Modbus configuration via configuration tool WINGATE
- The MB allows any automation device with a serial RS232/422/485 Modbus RTU Master or Slave interface to participate on a network
- The MB is well compatible with PLCs from the world-wide 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 pro-gramming and the device configuration can be finished in just a few steps.



* Suitable to transfer RK512 protocol



Technical data

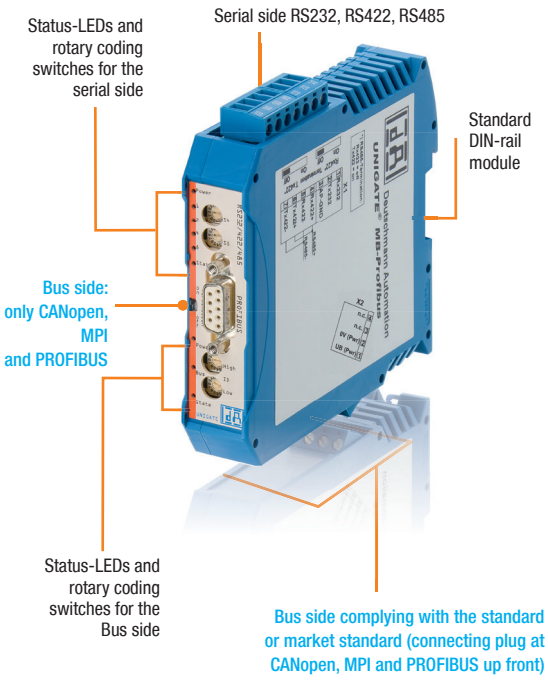
UNIGATE® MB		
Protocol	Modbus RTU Master/Slave, Modbus ASCII Master/Slave, RKI512, 3964R, Universal 232, DIN Messbus	
Max. stations	31 (with RS485/422)	
Baud rates	110 Baud - 625 KBaud	
Physical standards	RS232/422/485	
Modbus commands	0x01 Read Coils, 0x02 Read Discrete Inputs, 0x03 Read Holding Registers, 0x04 Read Input Registers, 0x05 Write Single Coil, Write Single Register, 0x0F 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
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	10..33 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 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/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	Art.-No.	Network	Art.-No.
CANopen	V4025	PROFIBUS	V3978
DeviceNet	V3980	PROFINET 2Port	V3979
EtherCAT	V4026		
EtherNet/IP 2Port	V3981		
Modbus TCP	V3982		
MPI	V4027		

Bus Network specific features

1 = Network connector, **2** = Baud rate, **3** = I/O data, **4** = 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 versions on available on request.	



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

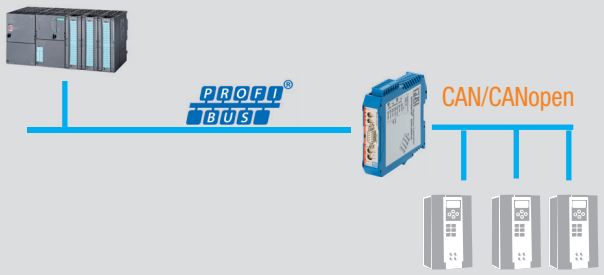
CAN/CANopen to all Fieldbuses and Industrial Ethernet

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

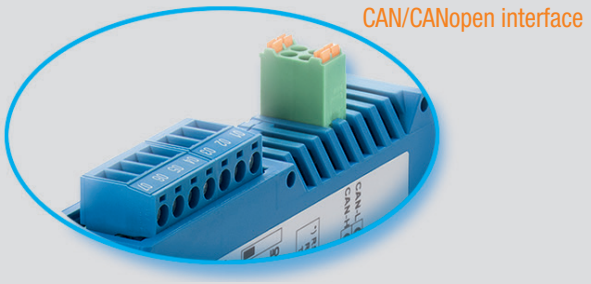
Besides RS232, RS485 and RS422 standard interfaces, the UNIGATE® CM CANopen Gateway has an additional CAN/CANopen interface with Mini-Master functionality. Hence, the gateways can connect both CANopen networks and individual CANopen devices into higher-level networks.

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



UNIGATE® CM Detail view of application side



Typical industries

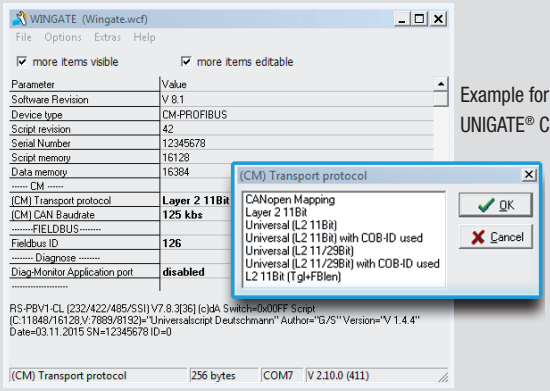
Water waste management · Display Systems · Drive Technology · Automotive · Energy · Factory Automation · Building Automation · Air Conditioning Systems · Shipping Industry · Traffic & Transportation Technology

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.



Example for UNIGATE® CM-PBDPV1

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.

Technical data

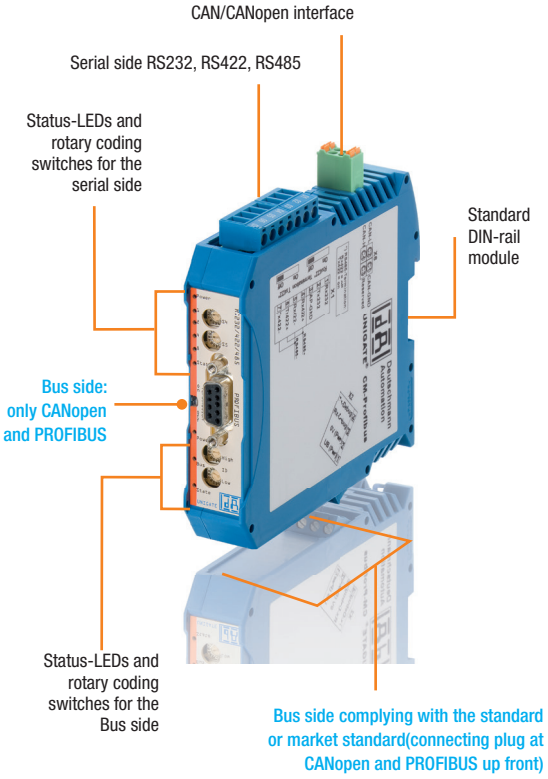
UNIGATE® CM		
Protocol	CANopen Mapping, Layer 2 11Bit, Universal (L2 11Bit), Universal (L2 11/29Bit) (More protocols available on request)	
Max. stations	31 (with RS485/422)	
Baud rates	110 Baud bis 520 kBaud resp. 625 kBaud (depending on version) for serial, 10/100 MBit/s for Ethernet	
Physical standards	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, 0x0F Write Multiple Coils, 0x10 Write Multiple Registers Customized commands can be created.	
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	10..33 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 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	

Network	Art.-No.	Network	Art.-No.
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

1 = Network connector, **2** = Baud rate, **3** = I/O data, **4** = 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 versions available on request.	



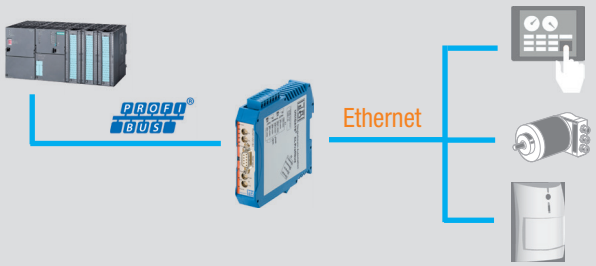
UNIGATE® EL - Enables quick configuration of Ethernet/Fieldbus Gateways

Ethernet to various Fieldbuses and Industrial Ethernet

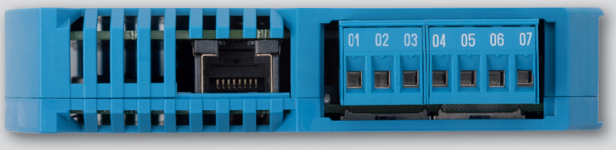
The UNIGATE® EL Gateways connect Ethernet-Participants to all Fielbus- and Industrial Eterhnet systems supported by Deutschmann.

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.

Application example for PROFIBUS Network



UNIGATE® EL Detail view of application side



Ethernet Port

Typical industries

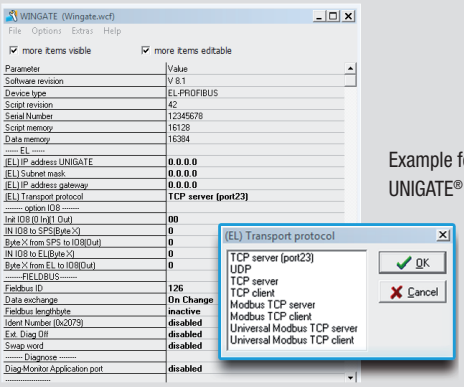
Water waste management | Display Systems | Drive Technology | Automotive | Energy | Factory Automation | Building Automation | Air Conditioning Systems | Shipping Industry | Traffic & Transportation Technology

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 world-wide 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/O8 available on request - 8 additional digital I/Os (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).



Example for UNIGATE® EL-PBDPV1

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.

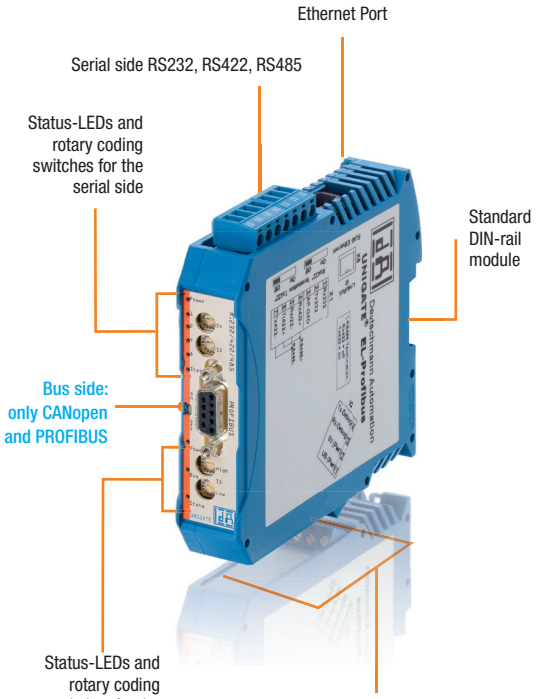
Technical data

UNIGATE® EL		
Protocol	UDP, TCP/IP (Client/server), Modbus TCP (Client/server)	
Max. stations	31 (with RS485/422)	
Baud rates	110 Baud bis 520 kBaud resp. 625 kBaud (depending on version) for serial, 10/100 MBit/s for Ethernet	
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, 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
Certifications		
RoHS		RoHS II Directive 2011/65/EU
REACH	downstream user	
Electrical Characteristics		
External power supply	10..33 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 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	

Bus Network specific features

1 = Network connector, **2** = Baud rate, **3** = I/O data, **4** = 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	Art.-No.
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

Water waste management | Display Systems | Drive Technology | Automotive | Energy | Factory Automation | Building Automation | Air Conditioning Systems | Shipping Industry | Traffic & Transportation Technology

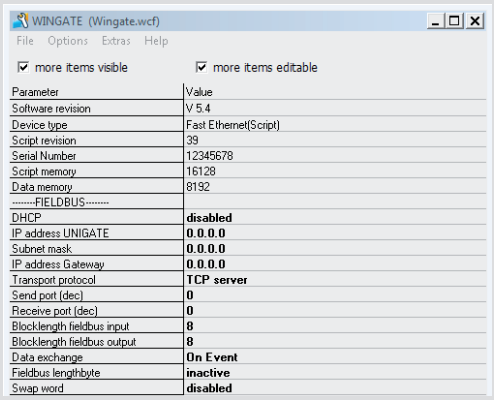
UNIGATE® CX - Features and benefits

- 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 world-wide 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.

Example for UNIGATE® CX



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	**0.0.0.0**
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.

Technical data

UNIGATE® CX		
Protocols *configurable*	Modbus RTU Master/Slave, Modbus ASCII Master/Slave, 3964(R)*, Transparent, Universal 232	
more protocols via Script	DIN Messbus Customized protocols can be created via Script	
Baud rates	110 Baud - 625 KBaud	
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. 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	10..33 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 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/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

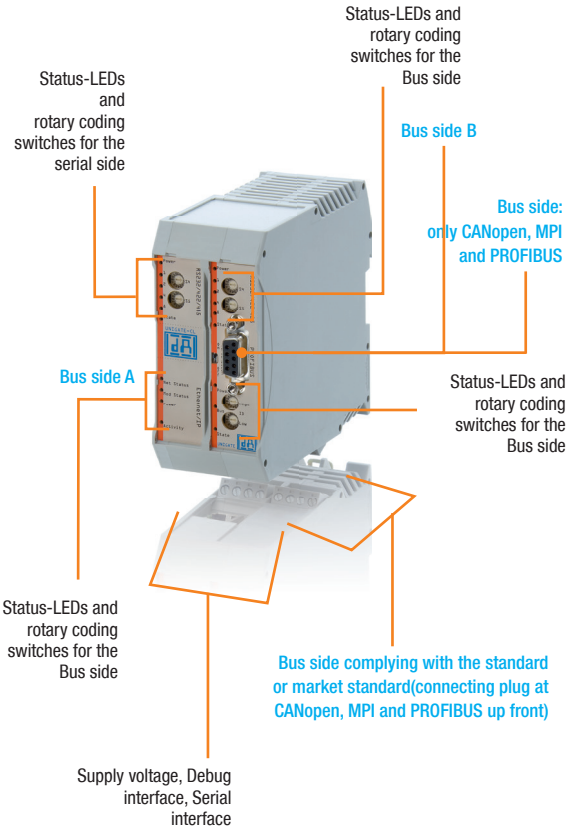
Bus side A		Bus side B	
Network	**Network**	**Network**	**Network**
CANopen	Modbus TCP	CANopen	Modbus TCP
DeviceNet	MPI	DeviceNet	MPI
EtherCAT	PROFIBUS	EtherCAT	PROFIBUS
EtherNet/IP 2Port	PROFINET	EtherNet/IP 2Port	PROFINET
Fast Ethernet		Fast Ethernet	
LONWorks62		LONWorks62	

* Suitable to transfer RK512 protocol

Bus Network specific features

1 = Network connector, **2** = Baud rate, **3** = I/O data, **4** = 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** = 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	**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	**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	**1** = 1x3p. screw connector (RS232), 1x4p. screw connector (RS485/RS422) **2** = 120 kbit/s (RS232), 625 kBaud (RS485/RS422) , **3** = 1024 Bytes IN/OUT



UNIGATE® - Protocol Matrix - General overview

UNIGATE®		CANopen		DeviceNet	EtherCAT	EtherNet/IP	Ethernet TCP/IP		LONWorks 62	Mod RTU +
		Master	Slave	Slave	Slave	Slave	Client	Server	Slave	Master
CANopen	Master	CM	CM	CM	CM	CM	CM	CM	CX	CL
	Slave	CM	CM	CM	CM	CM	CM CX	CM CX	CX	CL
			CX	CX	CX	CX	EL	EL		MB
DeviceNet	Slave	CM	CM	CX	CX	CX	CX	CX	CX	CL
			CX				EL	EL		MB
EtherCAT	Slave	CM	CM	CX	CX	CX	CX	CX	CX	CL
			CX				EL	EL		MB
EtherNet/IP	Slave	CM	CM	CX	CX	CX	CX	CX	CX	CL
			CX				EL	EL		MB
Ethernet TCP/IP	Client	CX	CM CX	CX	CX	CX	CX	CX	CX	CL
			EL	EL	EL	EL				MB
	Server	CX	CM CX	CX	CX	CX	CX	CX	CX	CL
			EL	EL	EL	EL				MB
LONWorks	Slave	CM	CX	CX	CX	CX	CX	CX	CX	CL
Modbus RTU + ASCII	Master	CL	CL	CL	CL	CL	CL	CL	CL	CL
			MB	MB	MB	MB	MB	MB		
	Slave	CL	CL	CL	CL	CL	CL	CL	CL	CL
			MB	MB	MB	MB	MB	MB		
Modbus TCP	Client	CX	EL	EL	EL	EL	CX	CX	CX	CL
	Server	CX	CX	CX	EL	EL	CX	CX	CX	CL
			EL	EL						MB
MPI	Slave	CX	CX	CX	CX	CX	CX	CX	CX	CL
										MB
PROFIBUS	Slave	CM	CM	CX	CX	CX	CX	CX	CX	CL
			CX				EL	EL		MB
PROFINET	Slave	CM	CM	CX	CX	CX	CX	CX	CX	CL
			CX				EL	EL		MB
Transparent Universal 232		CL	CL	CL	CL	CL	CL	CL	CL	CL
			MB	MB	MB	MB	MB	MB		
3964(R)		/	CL	CL	CL	CL	CL	CL	/	/
			MB	MB	MB	MB	MB	MB		
SSI-Protocol	Client	CL	CL	CL	CL	CL	CL	CL	CL	CL
			MB	MB	MB	MB	MB	MB		

Please note: This table is just a general overview. All possible UNIGAT

lbus ASCII	Modbus TCP		MPI	PROFIBUS	PROFINET	Transparent Universal 232	3964(R)	SSI-Protocol
Slave	Client	Server	Slave	Slave	Slave	Slave		Client
CL	CX	CX	CX	CM	CM	CL	CL	CL
CL	EL	CX	CX	CM	CM	CL	CL	CL
MB		EL		CX	CX	MB	MB	MB
CL	EL	CX	CX	CX	CX	CL	CL	CL
MB		EL				MB	MB	MB
CL	EL	EL	CX	CX	CX	CL	CL	CL
MB						MB	MB	MB
CL	EL	EL	CX	CX	CX	CL	CL	CL
MB						MB	MB	MB
CL	CX	CX	CX	CX	CX	CL	CL	CL
MB				EL	EL	MB	MB	MB
CL	CX	CX	CX	CX	CX	CL	CL	CL
MB				EL	EL	MB	MB	MB
CL	CX	CX	CX	CX	CX	CL	CL	CL
CL	CL	CL	CL	CL	CL	CL	CL	CL
MB		MB	MB	MB	MB			
CL	CL	CL	CL	CL	CL	CL	CL	CL
MB			MB	MB	MB			
CL	CX	CX	CL	EL	EL	CL	CL	CL
CL	CX	CX	CX	CX	CX	CL	CL	CL
MB				EL	EL	MB	MB	
CL	CL	CX	CX	CX	CX	CL	CL	CL
MB						MB	MB	MB
CL	EL	CX	CX	CX	CX	CL	CL	CL
MB		EL				MB	MB	MB
CL	EL	CX	CX	CX	CX	CL	CL	CL
MB		EL				MB	MB	MB
CL	CL	CL	CL	CL	CL	CL	CL	CL
		MB	MB	MB	MB			
/	/	CL	CL	CL	CL	/	/	/
		MB	MB	MB	MB			
CL	CL	CL	CL	CL	CL	CL	/	/
			MB	MB	MB			

Explanation Colours:

Devices can be configured

Devices can be programmed by Deutschmann Script language

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

UNIGATE® series:

UNIGATE® CL
UNIGATE® CM
UNIGATE® CX
UNIGATE® EL
UNIGATE® MB

UNIGATE® Product Finder

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

Global availability

The company

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,

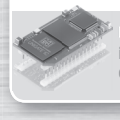
wiki.deutschmann.de, technological information is easily accessible for our customers and users, cross-linking application know-how and ensuring that the information is up to date.

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

Deutschmann
your ticket to all buses

Available Embedded Solutions

UNIGATE® IC



- Easy integration into your own electronics

UNIGATE® FC

- Connectable Multi-Protocol-Module

Deutschmann Automation GmbH & Co. KG
Headquarter
Carl-Zeiss-Straße 8
65520 Bad Camberg
Germany
Tel.: +49 6434 9433-0
Fax.: +49 6434 9433-40
info@deutschmann.de
www.deutschmann.com

TNR_UG_Gateways_EN_V1.1_23.10.18