
COMTRAXX® COM465ID

Condition Monitor with integrated gateway
for the connection of Bender isoData devices
with Ethernet TCP/IP networks



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for the connection of Bender isoData devices
with Ethernet TCP/IP networks**



Device features

- Condition monitor for Bender systems
- An integrated modular gateway between the Bender system and TCP/IP allows remote access via LAN, WAN or Internet
- Features adaptable by means of the function modules
- Ethernet (10/100 MBit/s) for remote access via LAN, WAN or Internet
- Support of devices that are connected via isoData, BCOM or Modbus TCP

Intended use

The gateway connects the following devices to Ethernet TCP/IP networks:

- Bender devices with isoData or BCOM interface
- Bender PEM... universal measuring devices which feature a Modbus TCP interface

The COM465ID converts alarms, measured values and states of the devices to the protocols Modbus TCP as well as HTTP and OPC-UA. This conversion allows coupling to Modbus TCP networks, data visualisation and evaluation using standard web browsers and analysis via OPC UA-capable software solutions.

Operation and settings are made via the COMTRAXX® user interface integrated in the device.

Applications

- Optimum display and visualisation of device and plant states in the web browser
- Recorded data can be made available via Modbus TCP and OPC-UA.
- Specific system overview according to individual installation description
- Selective notification to various users in case of alarms
- Information from the Bender system can be transmitted to POWERSCOUT® for analysis and archiving.
- Commissioning and diagnosis of Bender systems
- Remote diagnosis, remote maintenance

The COM465ID communicates with the assigned devices and systems via various interfaces

- 2 isoData interfaces RS-485
- BCOM (RJ45) for new and future Bender systems, such as ISOMETER® isoDB685-D-x
- Modbus TCP (RJ45)
- OPC-UA (RJ45)

Scope of functions

Basic device (without function modules)

- Condition monitor with a web interface for use with Bender isoData and BCOM devices as well as universal measuring devices
- Support of devices
 - via isoData (one device per interface)
 - via BCOM interface (max. 139 devices with one gateway / max. 98 x 139 devices in an interconnection with other gateways)
 - via Modbus TCP (max. 247 devices)
- Remote display of present measured values, operating/alarm messages
- Gateway to Modbus TCP: Reading the latest subsystem measured values, operating status and alarm messages from addresses 1...10 via Modbus TCP ¹⁾
- Ethernet interface with 10/100 MBit/s for remote access via LAN, WAN or the Internet
- Time synchronisation for all assigned devices
- History memory (1,000 entries)
- Data loggers, freely configurable (30 x 10,000 entries)
- 50 data points from third-party devices can be integrated into the system.
- A virtual device with 16 channels can be created.

¹⁾ Individual parameters can be set via a web-based application and externally (BCOM), but not via Modbus. The parameters of assigned devices can only be read. In order to change settings, function module C is required.

Function module A

- Assignment of individual texts for devices, channels (measuring points) and alarms
- Device failure monitoring
- E-mail notification to different users in case of alarms or system errors.
- Device documentation of any device in the system can be generated. It contains all parameters and measured values belonging to the device, as well as device information such as serial number and software version.
- System documentation can be generated. It documents all devices in the system at once.

Function module B

- Reading the latest measured values, status and alarms messages from all assigned devices. Uniform access to all assigned devices via Modbus TCP over integrated server.
- Control commands: From an external application (e.g. visualisation software or PLC), commands can be sent to BMS devices via Modbus TCP.
- Access to alarms and measured values via SNMP (V1, V2c or V3). SNMP traps are supported.
- Access via PROFINET to alarms and measured values.

Function module C

- Fast and easy parameter setting of all devices assigned to the gateway via a web browser.
- A backup file containing the settings of all devices in the system can be generated and imported.

Function module D

- Quick and easy-to-create visualisation of the system. Integrated editor provides access to a variety of widgets and functions.
- Display on up to 50 overview pages on which, for example, room plans can be stored. Navigation within these overview pages is possible.
- Access to all measured values available in the system.
- Buttons and sliders can be used to control external devices via Modbus TCP.

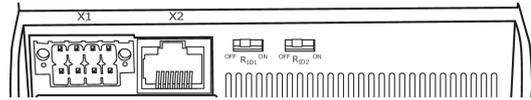
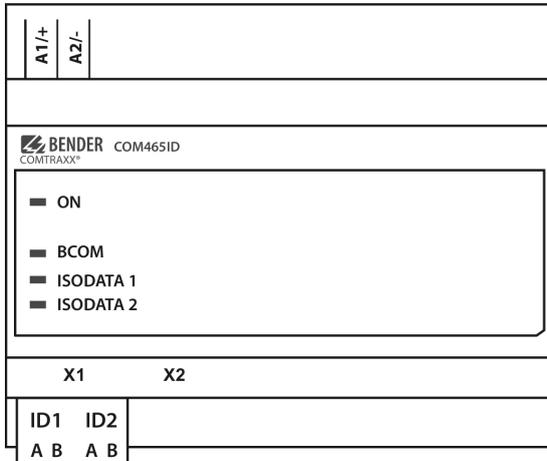
Function module E

100 virtual devices with 16 channels each can be created.

Function module F

1600 data points from third-party devices can be integrated into the system via Modbus TCP.

Connections and control elements



Element	Explanation
A1/+; A2/-	Power supply
Plug X1	1st isoData interface: Terminals AID1 und BID1 2nd isoData interface: Terminals AID2 und BID2
Plug X2	Ethernet connection (RJ45) for the connection to the PC network as well as to BCOM
R_{ID1}	isoData channel 1 terminating resistor switch
R_{ID2}	isoData channel 2 terminating resistor switch

LED	Function
ON	"ON" LED: Flashes during the start process. The LED lights continuously as soon as the device is ready for operation.
ISODATA 1 ISODATA 2	LEDs indicate activity on the various interfaces.

Technical data

()* = Factory setting

Insulation coordination in acc. with IEC 60664-1/IEC 60664-3

Rated voltage	AC 250 V
Rated impulse withstand voltage/ overvoltage category	4 kV / III
Pollution degree	3
Protective separation (reinforced insulation) between	(A1/+, A2/-) - [(AID1, BID1), (AID2, BID2), (X2)]

Supply voltage

Supply voltage U_s	AC/DC 24...240 V
Frequency range U_s	50...60 Hz
Power consumption	$\leq 6.5 \text{ VA} / \leq 4 \text{ W}$

Indications

LEDs	
ON	operation indicator
BCOM	data traffic BCOM
ISODATA 1	data traffic isoData 1
ISODATA 2	data traffic isoData 2
Ethernet (terminal X2)	lights during network connection flashes during data transfer

Memory

Individual texts (function module A only)	unlimited number of texts each with 100 characters
E-mail configurations (function module A only) and device failure monitoring	max. 250 entries
Individual texts (function module A only)	unlimited number of texts each with 100 characters
Number of data points for "third-party devices" on the Modbus TCP	50
Number of data loggers	30
Number of data points per data logger	10,000
Number of entries in the history memory	20,000

Visualisation

Number of pages	50
Background image size	3 MB
Data points (per page)	50 devices or channels, 150 text elements

Interfaces

Ethernet

Connection	RJ45
Cable length	< 100 m
Data rate	10/100 MBit/s, autodetect
HTTP mode	HTTP/HTTPS (HTTP)*
DHCP	on/off (on)*
t_{off} (DHCP)	5...60 s (30 s)*
IP address	nnn.nnn.nnn.nnn (192.168.0.254)* can always be reached via 169.254.0.1
Netmask	nnn.nnn.nnn.nnn (255.255.0.0)*
Protocols (depending on function module selected)	TCP/ IP, Modbus TCP, DHCP, SMTP, NTP, OPC-UA

BCOM

Interface/protocol	Ethernet/BCOM
BCOM system name	(SYSTEM)*
BCOM subsystem address	1...255 (1)*
BCOM device address	0...255 (0)*

Modbus TCP

Interface/protocol	Ethernet/Modbus TCP
Operating mode	client for Bender devices and "third- party devices" assigned
Operating mode	server for access to process image and for Modbus control commands
Parallel data access from different clients	max. 25

isoData

Interface/protocol	RS-485/isoData
Operating mode	Master
Baud rate	9.6...115.2 kBit/s
Cable length	$\leq 1200 \text{ m}$
Cable	shielded, one end of shield connected to PE
Cable recommended	CAT6/CAT7 min. AWG23
Cable alternatively	twisted pair, J-Y (St) Y min. 2x0.8
Connection	X1 (AID1, BID1, AID2, BID2)
Connection type	see connection "Push-wire terminal X1"
Terminating resistor	120 Ω (0.25 W), can be switched on internally
Device address	isoData1 (2); isoData2 (3)

SNMP

Interface/protocol	Ethernet/SNMP
Versions	1, 2c, 3
Supported devices	queries to all devices (channels) possible
Trap support	no

Environment / EMC

EMC	EN 61326-1
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Ambient temperatures

Operating temperature	-25...+55 °C
Transport	-40...+85 °C
Long-term storage	-25...+70 °C

Classification of climatic conditions acc. to IEC 60721

Stationary use (IEC 60721-3-3)	3K22
Transport (IEC 60721-3-2)	2K11
Long-term storage (IEC 60721-3-1)	1K22

Mechanical conditions acc. to IEC 60721

Stationary use (IEC 60721-3-3)	3M11
Transport (IEC 60721-3-2)	2M4
Long-term storage (IEC 60721-3-1)	1M12

Connection

Connection type	pluggable push-wire terminals
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Push-wire terminals

Conductor sizes	AWG 24-12
Stripping length	10 mm
rigid/flexible	0.2...2.5 mm ²
flexible with ferrule with/without plastic sleeve	0.25...2.5 mm ²
Multiple conductor, flexible with TWIN ferrule with plastic sleeve	0.5...1.5 mm ²

Push-wire terminal X1

Conductor sizes	AWG 24-16
Stripping length	10 mm
rigid/flexible	0.2...1.5 mm ²
flexible with ferrule without plastic sleeve	0.25...1.5 mm ²
flexible with ferrule with plastic sleeve	0.25...0.75 mm ²

Other

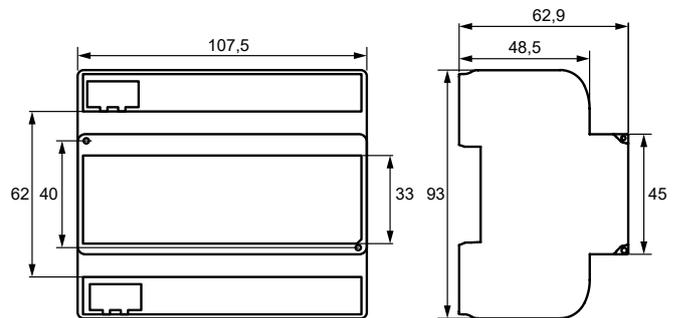
Operating mode	continuous operation
Mounting position	front-orientated, air must pass through cooling slots vertically
Degree of protection, internal components (IEC 60529)	IP30
Degree of protection, terminals (IEC 60529)	IP20
Snap-on mounting on a DIN rail	IEC 60715
Screw mounting	3 x M4
Type of enclosure	J460
Enclosure material	polycarbonate
Flammability class	UL94V-0
Dimensions (W x H x D)	107.5 x 93 x 62.9 mm
Software	D0472
Weight	≤ 240 g

(*) = Factory setting

Standards, approvals and certifications



Dimensions



Dimension diagram (in mm)

Ordering information

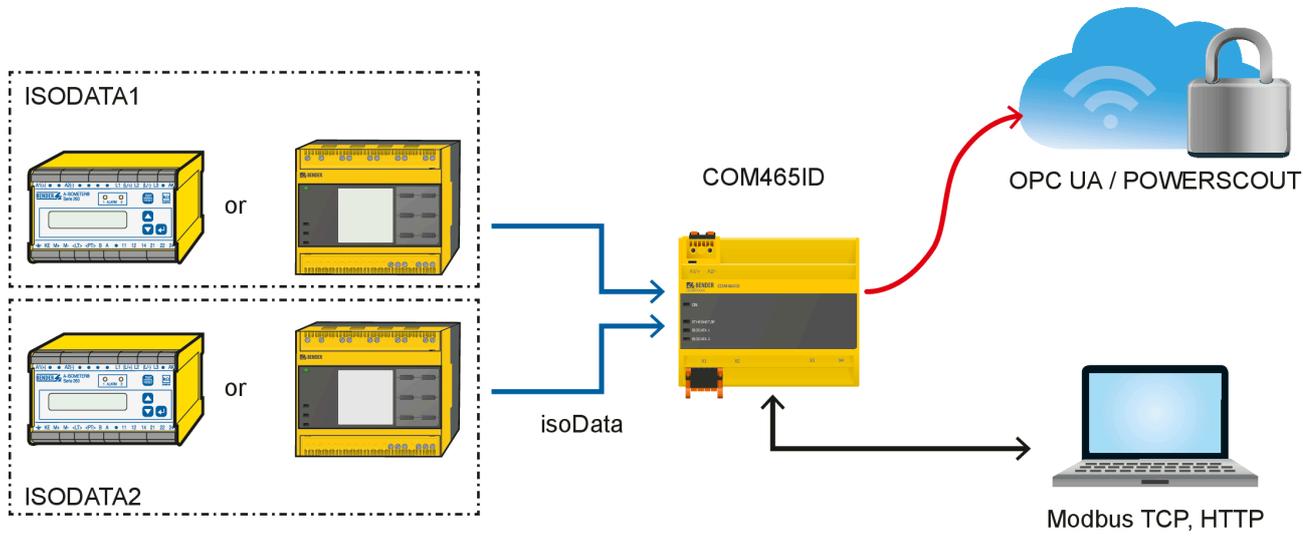
Device

Type	Application	Supply voltage/ frequency range U_s	Power consumption	Art. No.
COM465ID	Condition Monitor an integrated gateway	AC/DC 24...240 V 50...60 Hz	$\leq 6,5 \text{ VA} / \leq 4 \text{ W}$	B95061070

Function modules

Function module (Software licence)	Function	Art. No.
Function module A	Individual texts for devices/channels, device failure monitoring, e-mail in the event of an alarm, device documentation	B75061011
Function module B	Provision of data via Modbus TCP and Modbus RTU, SNMP server with trap function, PROFINET, MQTT	B75061012
Function module C	Parameterisation of all integrated devices, device backups	B75061013
Function module D	Visualisation application	B75061014
Function module E	Virtual devices	B75061015
Function module F	Integrating third-party devices	B75061016

Application example



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Subject to change!
The specified standards take into account the
edition valid until 05.2024 unless otherwise
indicated.