SUPPLEMENTARY INFORMATION

EN

Translation of the Original

XPT 200 EC | CCT 3XX EC

DigiLine gauge with EtherCAT interface

PFEIFFER VACUUM

Dear Customer,

Thank you for choosing a Pfeiffer Vacuum product. Your new gauge is designed to support you in your individual application with maximum performance and without malfunctions. The name Pfeiffer Vacuum stands for high-quality vacuum technology, a comprehensive and complete range of top-quality products and first-class service. From this extensive, practical experience we have gained a large volume of information that can contribute to efficient deployment and to your personal safety.

In the knowledge that our product must avoid consuming work output, we trust that our product can offer you a solution that supports you in the effective and trouble-free implementation of your individual application.

Please read these operating instructions before putting your product into operation for the first time. If you have any questions or suggestions, please feel free to contact info@pfeiffer-vacuum.de.

Further operating instructions from Pfeiffer Vacuum can be found in the Download Center on our website.

Disclaimer of liability

These operating instructions describe all models and variants of your product. Note that your product may not be equipped with all features described in this document. Pfeiffer Vacuum constantly adapts its products to the latest state of the art without prior notice. Please take into account that online operating instructions can deviate from the printed operating instructions supplied with your product.

Furthermore, Pfeiffer Vacuum assumes no responsibility or liability for damage resulting from the use of the product that contradicts its proper use or is explicitly defined as foreseeable misuse.

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1 About this manual

IMPORTANT
Read carefully before use.
Keep the manual for future consultation.

1.1 Validity

This supplementary information describes important deviations from the standard product and is valid only in conjunction with the valid operating instructions.

1.1.1 Applicable documents

Designation	Document
Operating instructions for "Digital capacitive gauge" CCT 36x	BG 6011
Operating instructions for "Digital capacitive gauge" CCT 37x	BG 6012
Operating instructions for "Digital piezo-resistive gauge" CPT 200	PG 0021
Operating instructions for "Digital Pirani gauge" PPT 200	PG 0022
Operating instructions for "Digital piezo/Pirani gauge" RPT 200	PG 0023
Operating instructions for "Digital Pirani/Bayard Alpert gauge" HPT 200	PG 0024
Operating instructions for "Digital Pirani/cold cathode gauge" MPT 200	PG 0025
Declaration of conformity	A component of these instructions

Tbl. 1: Applicable documents

You can find these documents in the Pfeiffer Vacuum Download Center.

1.1.2 Variants

This document applies to the following products:

- **DigiLine gauge with EtherCAT interface**

The part number is found on the rating plate of the product.

Pfeiffer Vacuum reserves the right to make technical changes without prior notification.

Information that relates to only one of the products is indicated accordingly.

The figures in this document are not to scale.

The figures show the product with a DN 16 ISO-KF vacuum connection, however, they also apply to the other vacuum connections where applicable.

Dimensions are in mm unless stated otherwise.

1.2 Conventions

1.2.1 Abbreviations

Abbreviation	Explanation
ATM	Atmosphere
dec	Decimal
EC	EtherCAT
ESI	EtherCAT device information
EtherCAT	Ethernet for control automation technology
GCF	Gas correction factor
hex	Hexadecimal
HV	High vacuum

Abbreviation	Explanation
ID	Identification
IEEE	Institute of Electrical and Electronics Engineers
L/A	Link/activity
LED	Light-emitting diode
REAL	EtherCAT data type
UDINT	EtherCAT data type (unsigned double integer value)
UINT	EtherCAT data type (unsigned integer value)
USINT	EtherCAT data type (unsigned short integer value)

Tbl. 2: Abbreviations used

1.3 Trademark proof

- EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

- Binder® is a trademark of Franz Binder GmbH + Co. Elektrische Bauelemente KG.

2 Product description

2.1 Function

The electrically insulated EtherCAT interface is set up with a 2-port switch and supports 100-Mbit/s full-duplex communication. The gauge has 2 connections for connecting to an EtherCAT system. The "RS-485" provides a voltage supply.

Serial interface "RS-485"

Information on the "RS-485" connection can be found in the corresponding operating instructions of the gauge, standard version.

Correction factor for gas type dependent gauges

You can write the correction factors into the memory of the gauge via the serial interface. Information can be found in the corresponding operating instructions of the gauge standard version.

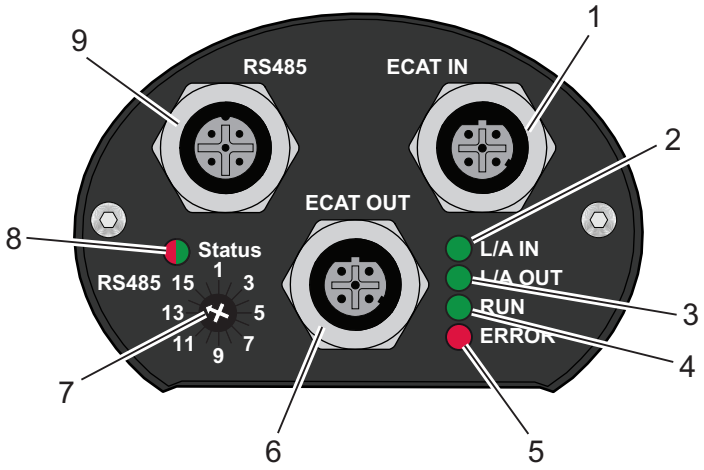

Fig. 1: Structure of the xPT gauge

1 EtherCAT signal input
2 Status LED for signal input
3 Status LED for signal output
4 LED for communication status
5 LED for EtherCAT error
6 EtherCAT signal output
7 RS-485 address selector switch
8 Status LED for the gauge
9 "RS-485" connector

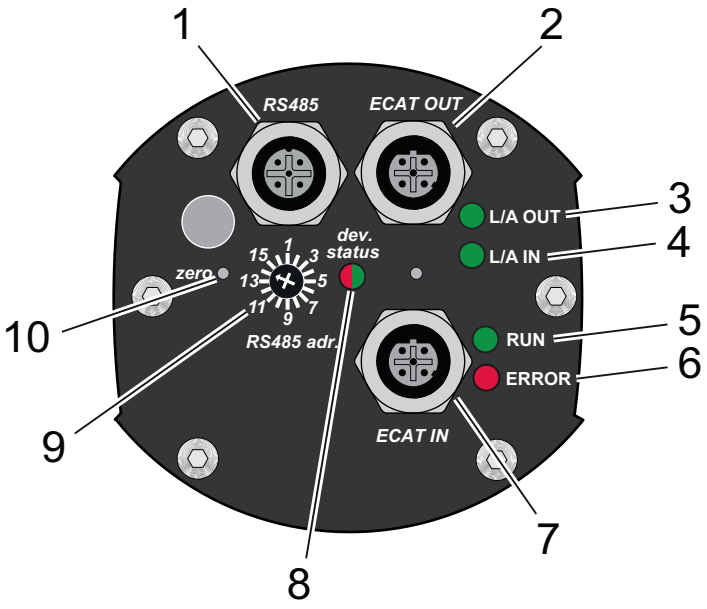

Fig. 2: Structure of the CCT gauge

1	"RS-485" connector	6	LED for EtherCAT error
2	EtherCAT signal output	7	EtherCAT signal input
3	Status LED for signal output	8	Status LED for the gauge
4	Status LED for signal input	9	RS-485 address selector switch
5	LED for communication status	10	"Zero" button (calibration)

2.2 "EtherCAT" connection

The "EtherCAT" connections each consist of a 4-pin M12 socket (female, D-coded) with threaded coupling.

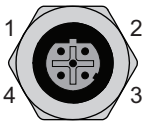

Fig. 3: "EtherCAT" connection assignment

1	Transmission data (Tx+)	3	Transmission data (Tx-)
2	Reception data (Rx+)	4	Reception data (Rx-)

3 Installation

⚠ DANGER

Danger to life due to dangerous contact voltage

Voltages above 30 V (AC) or 60 V (DC) are considered dangerous in accordance with IEC 61010. If you come into contact with dangerous contact voltage, this can result in injury through electric shocks or even death.

► Only apply protected extra-low voltage (PELV).

NOTICE

Damage from connecting while energized

You will damage the gauge if you connect it while energized.

► Disconnect the voltage supply before installing the gauge.
► Attach the connection cable only when in zero potential state.

NOTICE

Data transmission error due to simultaneous operation on both interfaces

If you attempt to operate the gauge simultaneously via the RS-485 and EtherCAT interfaces, this will result in incorrect data and interference with the data transmission.

► Operate the gauge via only one of the two interfaces.
► During EtherCAT operation, use the RS-485 connector only for supplying voltage to the gauge.

Vacuum connection

You can obtain information on the vacuum connection in the corresponding operating instructions of the standard version of the gauge.

3.1 Establishing electric connection

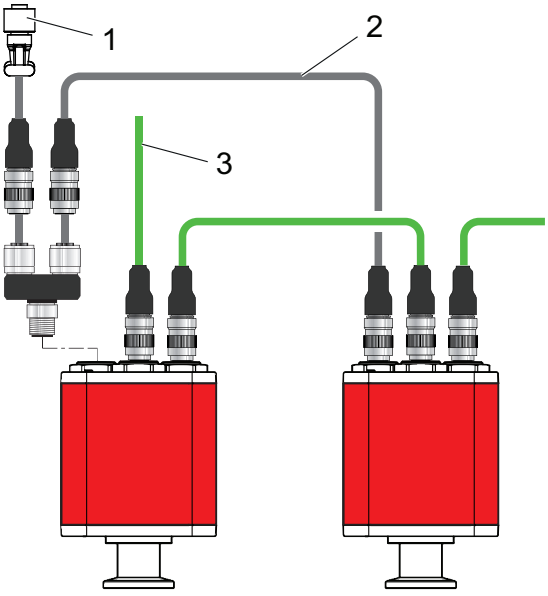

Fig. 4: Connection to EtherCAT and voltage supply

1 Voltage source 24 V DC
2 Voltage supply via RS-485 connection
3 Connection to EtherCAT controller

Connecting EtherCAT and voltage supply

► Use connection cables from the DigiLine accessories range.
► Connect the voltage supply in accordance with the gauge's standard instructions.

3.2 Configuring EtherCAT connection

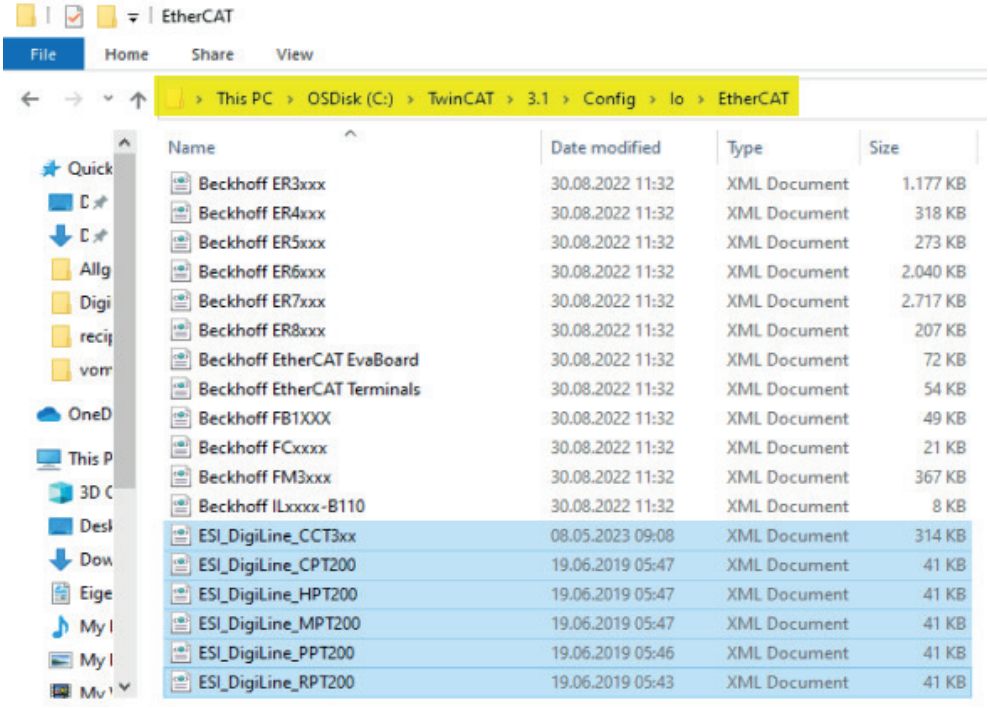

Fig. 5: Saving unpacked ESI files in EtherCAT directory

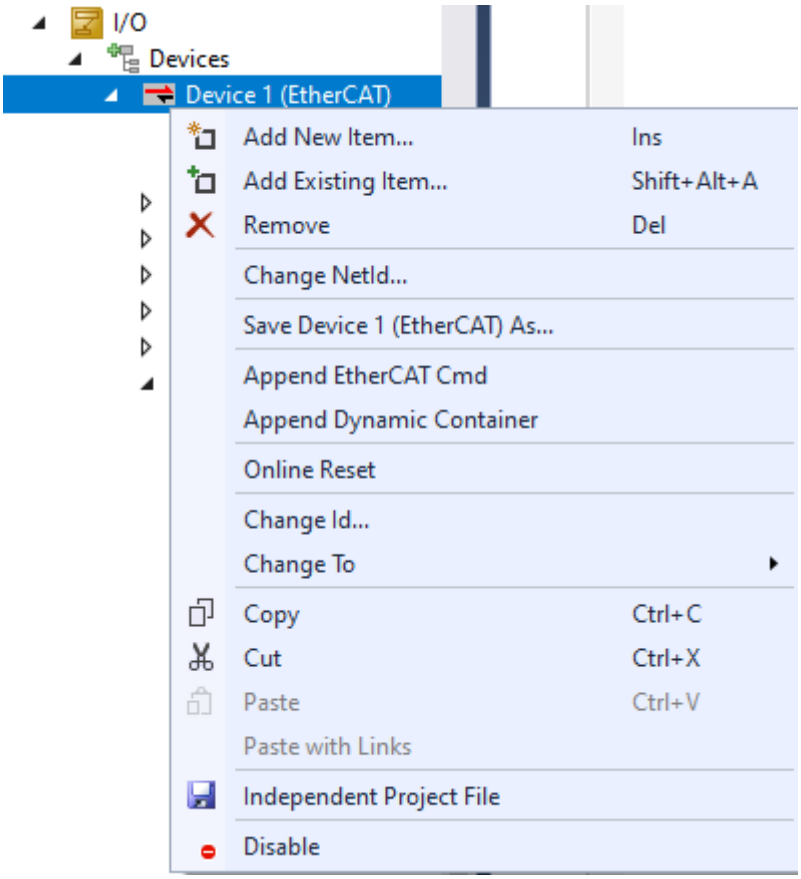

Fig. 6: Adding new device

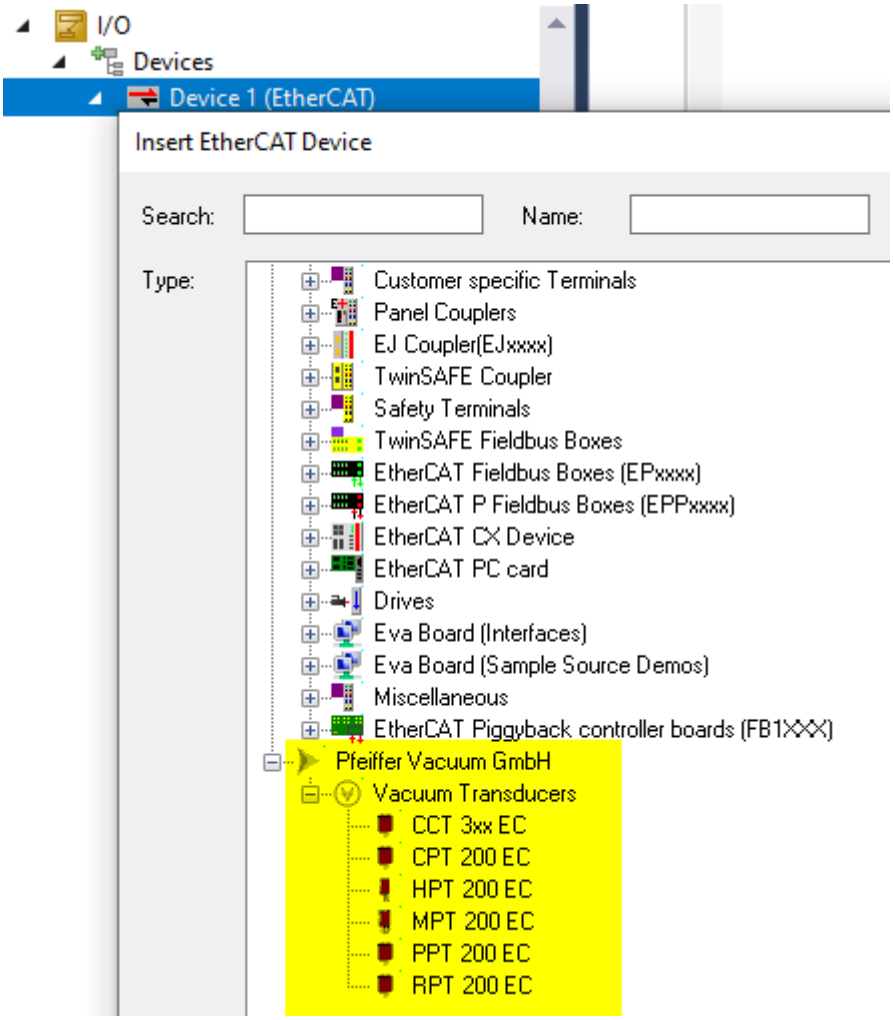

Fig. 7: Selecting desired gauge in directory

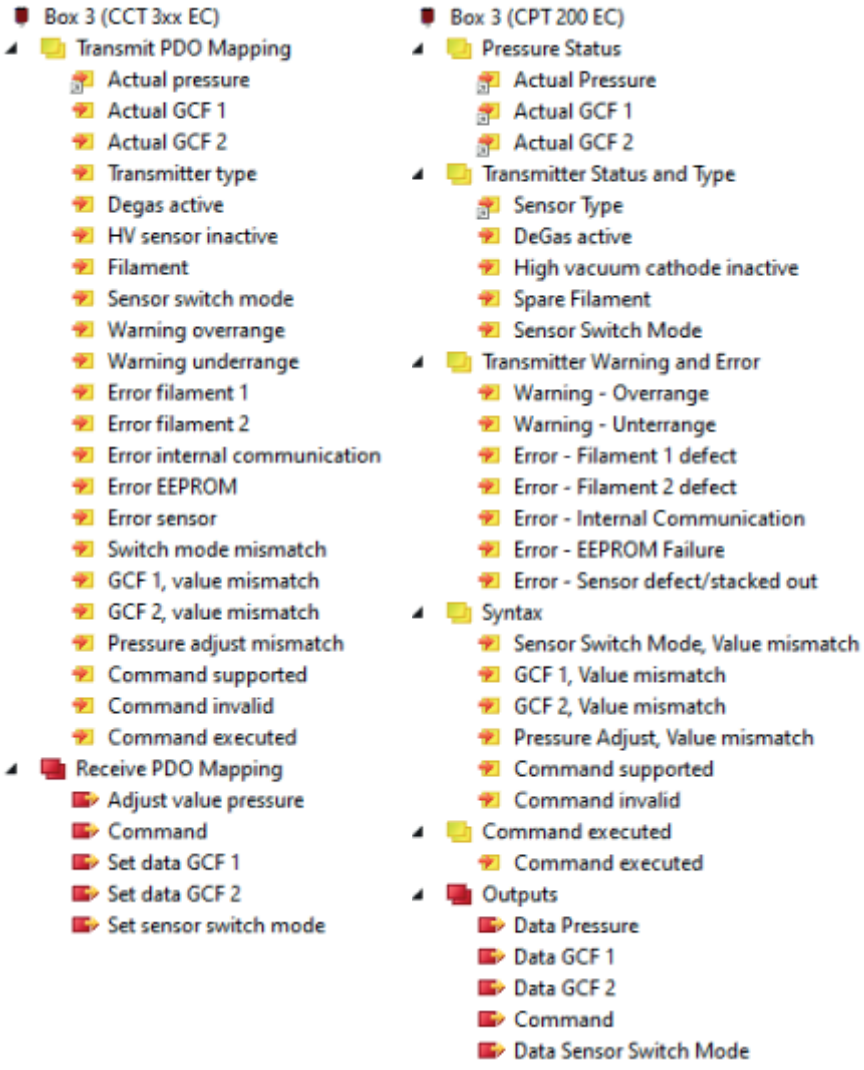

Fig. 8: Integrated gauge (here: CCT 3xx EC and CPT 200 EC)

Procedure

1. Download the gauge's ESI file from the Pfeiffer Vacuum Download Center.
2. Place the unpacked ESI file in the following path: TwinCAT > 3.1 > Config > Io > EtherCAT
3. Use the Add New Item function to add a new EtherCAT device.
   – The gauges can be found in the path Pfeiffer Vacuum GmbH / Vacuum Transducers.

The gauge is automatically adopted with the assigned input and output modules.

4 Operation

NOTICE

Data transmission error due to simultaneous operation on both interfaces

If you attempt to operate the gauge simultaneously via the RS-485 and EtherCAT interfaces, this will result in incorrect data and interference with the data transmission.

- ► Operate the gauge via only one of the two interfaces.
- ► During EtherCAT operation, use the RS-485 connector only for supplying voltage to the gauge.

With the input modules, the gauge transmits status, data, and parameters to the controller. With the output modules, the controller transmits control commands and parameter changes to the gauge.

The following data types are used in the input and output modules:

Data type	Format
REAL	32-bit floating point number (IEEE)
USINT	Unsigned 8-bit number
UINT	Unsigned 16-bit number
UDINT	Unsigned 32-bit number
BIT(x)	Single bits or bit area

Tbl. 3: EtherCAT data types

4.1 Input modules

Byte	Bit	Data type	Contents	
0	-	REAL	Actual pressure	
1				
2				
3				
4	-	UINT	Actual GCF 1 [1)]	
5				
6	-	UINT	Actual GCF 2 [2)]	
7				
8	0	BIT(3)	Transmitter status and type	Transmitter type
	1			Transmitter type
	2			Transmitter type
	3	BIT		Degas active
	4			HV sensor inactive
	5			Filament
	6	BIT(2)		Sensor switch mode
	7			Sensor switch mode

1) More information can be found in the operating instructions for the standard version of the gauge.

2) More information can be found in the operating instructions for the standard version of the gauge.

Byte	Bit	Data type	Contents	
9	0	BIT	Transmitter warning and error	Warning overrange
	1			Warning underrange
	2			-
	3			Error Filament 1 defective
	4			Error Filament 2 defective
	5			Error Internal communication
	6			Error EEPROM failure
	7			Error Sensor defective/stacked out
10	0	BIT	Syntax	-
	1			-
	2			Sensor switch mode value mismatch
	3			GCF 1, value mismatch
	4			GCF 2, value mismatch
	5			Pressure adjust, value mismatch
	6			Command supported
	7			Command invalid
11	-	USINT	Command executed	

Tbl. 4: Input data: Gauge to EtherCAT controller

4.1.1 Actual pressure (bytes 0 – 3)

For all gauges, bytes 0 to 3 contain the current pressure value.

4.1.2 Actual GCF 1 (bytes 4 – 5)

Bytes 4 and 5 are available only for gauges with Pirani sensor.

Bytes 4 and 5 contain the current correction factor (0.2 to 8.0) with 2 decimal places and a factor of 100 for the Pirani sensor.

Examples

- Example: Correction factor 0.20 = 020
- Example: Correction factor 1.00 = 100
- Example: Correction factor 8.00 = 800

4.1.3 Actual GCF 2 (bytes 6 – 7)

Bytes 6 and 7 are available only for gauges with HV sensor.

Bytes 6 and 7 contain the current correction factor (0.2 to 8.0) with 2 decimal places and a factor of 100 for the HV sensor.

Examples

- Example: Correction factor 0.20 = 020
- Example: Correction factor 1.00 = 100
- Example: Correction factor 8.00 = 800

4.1.4 Transmitter status and type (byte 8)

The available functions are dependent on the gauge.

Bit	Function	Description	Default	Gauge
0	Transmitter type	1 = RPT 200 EC 2 = PPT 200 EC 3 = MPT 200 EC 4 = HPT 200 EC 5 = CPT 200 EC 6 = CCT 3xx EC	-	All gauges
1				
2				

Bit	Function	Description	Default	Gauge
3	Degas active	0 = off 1 = Activated	0	HPT 200 EC
4	HV sensor inactive	0 = controlled by Pirani sensor 1 = always off	0	MPT 200 EC HPT 200 EC
5	Filament	0 = filament 1 [3)] 1 = filament 2	0	HPT 200 EC
6 7	Sensor switch mode	0 = direct sensor changeover at 1 hPa 1 = continuous transition at 5 – 15 hPa	1	RPT 200 EC
		0 = direct sensor changeover at 0.001 hPa 1 = continuous transition at 0.001 – 0.002 hPa	1	MPT 200 EC
		0 = direct sensor changeover at 4 × 10^{-4} hPa 1 = continuous transition at 0.001 – 0.002 hPa 2 = continuous transition at 0.002 – 0.005 hPa	2	HPT 200 EC

Tbl. 5: Input data: Transmitter status and type

4.1.5 Transmitter warning and error (byte 9)

Warnings and malfunction messages are dependent on the gauge.

Bit	Error	Gauge
0	Warning overrange	All gauges
1	Warning underrange	
2	-	
3	Error Filament 1 defective	HPT 200 EC
4	Error Filament 2 defective	
5	Error Internal communication	All gauges
6	Error EEPROM failure	
7	Error Sensor defective/stacked out	

Tbl. 6: Input data: Transmitter warning and error

4.1.6 Syntax (byte 10)

The information on received and processed commands is dependent on the gauge. Set bits (1) indicate syntax errors, with the exception of bit 6 “Command supported”.

Bit	Function	Description	Gauge
2	Sensor Switch Mode Value mismatch	Used setting value incorrect or outside permissible range	RPT 200 EC MPT 200 EC HPT 200 EC
3	GCF 1, value mismatch		PPT 200 EC RPT 200 EC MPT 200 EC HPT 200 EC
4	GCF 2, value mismatch		MPT 200 EC HPT 200 EC
5	Pressure adjust, Value mismatch		All gauges

3) Bit 5 shows when the gauge switched to the second (spare) filament and the first filament has thus been exhausted.

Bit	Function	Description	Gauge
6	Command supported	0 = received command is not supported (error) 1 = received command is supported (no error)	All gauges
7	Command invalid	0 = No error 1 = received command not permissible or not executable (error)	All gauges

Tbl. 7: Input data: Syntax

4.1.7 Command executed (byte 11)

For all gauges, byte 11 contains the value of the last command executed that was written to Command.

4.2 Output modules

All commands are assigned to 2 groups:

- Commands that apply to all gauges
- Commands that apply only to certain gauges

The following generally applies:

- The gauge runs each command once only.
- The gauge only ever enters the last command executed in "Command executed".

Byte	Data type	Contents
0	REAL	Adjust Value Pressure
1		
2		
3		
4	USINT	Command
5	UINT	Set Data GCF 1
6		
7	UINT	Set Data GCF 2
8		
9	USINT	Set Sensor Switch Mode

Tbl. 8: Output data: EtherCAT controller to gauge

4.2.1 Adjust Value Pressure (Bytes 0 – 3)

For all gauges, bytes 0 to 3 contain the values for HV and ATM calibration.

4.2.2 Command (byte 4)

Byte 4 contains the data for the command to be executed.

Command			Gauge					
hex	dec	Name	CCT 3xx	CPT	HPT	MPT	PPT	RPT
0x00	0	Zero Command	✓	✓	✓	✓	✓	✓
0x01	1	Adjust High Vacuum	✓	✓	✓	✓	✓	✓
0x02	2	Adjust Atmospheric Pressure	✓	✓	✓	✓	✓	✓
0x03	3	Set Gas Correction Factors (GCF)	-	-	GCF 1/2	GCF 1/2	GCF 1	GCF 1
0x39	57	Set Sensor Switch Mode	-	-	-	-	-	✓
0x46	70	Activate Cold Cathode	-	-	-	✓	-	-
0x47	71	Deactivate Cold Cathode	-	-	-	✓	-	-

Command			Gauge					
hex	dec	Name	CCT 3xx	CPT	HPT	MPT	PPT	RPT
0x4D	77	Set Sensor Switch Mode	-	-	-	✓	-	-
0x50	80	Activate Hot Cathode	-	-	✓	-	-	-
0x51	81	Deactivate Hot Cathode	-	-	✓	-	-	-
0x55	85	Activate Degas	-	-	✓	-	-	-
0x56	86	Deactivate Degas	-	-	✓	-	-	-
0x57	87	Set Sensor Switch Mode	-	-	✓	-	-	-

Tbl. 9: Commands and their use

Zero Command
A new setting sequence always starts with the “Zero Command”.

Executing "Zero Command"

► **Prior** to any command, execute the **Zero Command** in the byte for “Command”. (output byte 4 = 0)
  – The command empties “Command executed” and resets the bits in “Syntax”. Only then can a command > 0 be executed.

The bit in “Syntax” (input byte 10) for “Command invalid” or “Command supported” is set and the number of the command is returned in “Command executed” (input byte 11). If an invalid value was entered in “Adjust value pressure” (output bytes 0-3) or the “Set data ...” (output bytes 5-8), the corresponding bit in “Syntax” (input byte 10) is set for the associated “... mismatch” message.

4.2.3 Set Data GCF 1 (bytes 5 – 6)

Bytes 5 and 6 are available only for gauges with Pirani sensor.

Bytes 5 and 6 contain the new correction factor (0.2 to 8.0) with 2 decimal places and a factor of 100 for the Pirani sensor.

Examples

- Example: Correction factor 0.20 = 020
- Example: Correction factor 1.00 = 100
- Example: Correction factor 8.00 = 800

4.2.4 Set Data GCF 2 (bytes 7 – 8)

Bytes 7 and 8 are available only for gauges with HV sensor.

Bytes 7 and 8 contain the new correction factor (0.2 to 8.0) with 2 decimal places and a factor of 100 for the HV sensor.

Examples

- Example: Correction factor 0.20 = 020
- Example: Correction factor 1.00 = 100
- Example: Correction factor 8.00 = 800

4.2.5 Set Sensor Switch Mode (byte 9)

The available functions are dependent on the gauge.

Byte	Function	Description	Gauge
9	Set Sensor Switch Mode	0 = direct sensor changeover at 1 hPa 1 = continuous transition at 5 – 15 hPa	RPT 200 EC
		0 = direct sensor changeover at 0.001 hPa 1 = continuous transition at 0.001 – 0.002 hPa	MPT 200 EC
		0 = direct sensor changeover at 4 × 10^{-4} hPa 1 = continuous transition at 0.001 – 0.002 hPa 2 = continuous transition at 0.002 – 0.005 hPa	HPT 200 EC

Tbl. 10: Output data: Switching ranges

4.3 EtherCAT operating mode display via LED

LED	Status	Indicator	Meaning
L/A IN	Off		Supply voltage off No connection to incoming EtherCAT line
	Lights up green		Connection to upstream EtherCAT participant No data exchange
	Green fast flash		Data exchange with upstream EtherCAT participant
L/A OUT	Off		Supply voltage off No connection to outgoing EtherCAT line
	Lights up green		Connection to downstream EtherCAT participant No data exchange
	Green fast flash		Data exchange with downstream EtherCAT participant
RUN	Off		Supply voltage off Bus not started or in initialization status
	Flashes green		EtherCAT interface is in Pre-Operational status
	Quick green flash		EtherCAT interface is in Safe-Operational status
	Lights up green		EtherCAT interface is ready for operation, in Operational status
	Green fast flash		Boot status, firmware update
ERROR	Off		Supply voltage off No error
	Flashes red		Data error
	Lights up red		Configuration error

Tbl. 11: Behavior and meaning of the EtherCAT LED with xPT 200 EC

LED	Status	Indicator	Meaning
L/A IN	Off		Supply voltage off No connection to incoming EtherCAT line
	Lights up green		Connection to upstream EtherCAT participant No data exchange
	Green fast flash		Data exchange with upstream EtherCAT participant
L/A OUT	Off		Supply voltage off No connection to outgoing EtherCAT line
	Lights up green		Connection to downstream EtherCAT participant No data exchange
	Green fast flash		Data exchange with downstream EtherCAT participant

LED	Status	Indicator	Meaning
RUN	Off		Supply voltage off Bus not started or in initialization status State: INIT
	Flashes green		EtherCAT interface is in Pre-Operational status State: Pre-Op
	Quick green flash		EtherCAT interface is in Safe-Operational status State: Safe-Op
	Lights up green		EtherCAT interface is ready for operation, in Operational status State: Op
	Green fast flash		Boot status, firmware update State: Bootstrap
ERROR	Off		Supply voltage off No error
	Flickers red		Booting error
	Flashes red twice		Watchdog timeout
	Flashes red		Unauthorized change of state
	Flashes red		Configuration error
	Lights up red		Hardware error

Tbl. 12: Behavior and meaning of the EtherCAT LED with CCT 36x EC and CCT 37x EC

5 Technical data

Parameter	CCT 36x EC	CCT 37x EC
Interfaces	RS-485, EtherCAT	
"EtherCAT" interface, device side	2× Binder M12 bushing, 4-pin, D-coded	
Supply: Power consumption max.	5 W	15 W

Tbl. 13: Technical data for EtherCAT interface with CCT gauges

Parameter	CPT 200 EC	PPT 200 EC	RPT 200 EC	HPT 200 EC	MPT 200 EC
Interfaces	RS-485, EtherCAT				
"EtherCAT" interface, device side	2× Binder M12 bushing, 4-pin, D-coded				
Supply: Power consumption max.	3 W	4 W	4 W	10.5 W	4.5 W

Tbl. 14: Technical data for EtherCAT interface with xPT gauges

The products CPT 200 EC, PPT 200 EC, RPT 200 EC and MPT 200 EC

- conform to the UL standards

  UL 61010-1, 3rd edition (2016), R:2019
  Safety requirements for electrical equipment for measurement, control and laboratory use
  Part 1: General requirements

- are certified to the CSA standards

  CSA C22.2 No. 61010-1-12, 3rd edition (2012), U1, U2, A1
  Safety requirements for electrical equipment for measurement, control and laboratory use
  Part 1: General requirements

The products CCT 36x EC and CCT 37x EC

- conform to the UL standards

  UL 61010-1, 3rd edition (2016), R:2019
  Safety requirements for electrical equipment for measurement, control and laboratory use
  Part 1: General requirements

- are certified to the CSA standards

  CSA C22.2 No. 61010-1-12, 3rd edition (2012), U1, U2, A1
  Safety requirements for electrical equipment for measurement, control and laboratory use
  Part 1: General requirements

EC Declaration of Conformity

This declaration of conformity has been issued under the sole responsibility of the manufacturer.

Declaration for product(s) of the type:

DigiLine gauge with EtherCAT interface

CCT 361 EC	CCT 371 EC
CCT 362 EC	CCT 372 EC
CCT 363 EC	CCT 373 EC
CCT 364 EC	CCT 374 EC
CCT 365 EC	CCT 375 EC

We hereby declare that the listed product satisfies all relevant provisions of the following **European Directives**.

Low voltage 2014/35/EU

Electromagnetic compatibility 2014/30/EU

Restriction of the use of certain hazardous substances 2011/65/EU

Restriction of the use of certain hazardous substances, delegated directive 2015/863/EU

Harmonized standards and applied national standards and specifications:

DIN EN IEC 61000-6-2:2019

DIN EN IEC 61000-6-3:2022

DIN EN 61010-1:2020

DIN EN IEC 61326-1:2022

DIN EN IEC 63000:2019

Signature:

Pfeiffer Vacuum GmbH
Berliner Straße 43
35614 Asslar
Germany

(Daniel Sälzer)
Managing Director

Asslar, 2023-06-26

CE

PFEIFFER VACUUM

EC Declaration of Conformity

This declaration of conformity has been issued under the sole responsibility of the manufacturer.

Declaration for product(s) of the type:

DigiLine gauge with EtherCAT interface

CPT 200 EC

PPT 200 EC

RPT 200 EC

HPT 200 EC

MPT 200 EC

We hereby declare that the listed product satisfies all relevant provisions of the following **European Directives**.

Low voltage 2014/35/EU

Electromagnetic compatibility 2014/30/EU

Restriction of the use of certain hazardous substances 2011/65/EU

Restriction of the use of certain hazardous substances, delegated directive 2015/863/EU

Harmonized standards and applied national standards and specifications:

DIN EN IEC 61326-1:2022

DIN EN IEC 63000:2019

Signature:

Pfeiffer Vacuum GmbH
Berliner Straße 43
35614 Asslar
Germany

(Daniel Sälzer)
Managing Director

Asslar, 2023-01-25

CE

PFEIFFER VACUUM

UK Declaration of Conformity

This declaration of conformity has been issued under the sole responsibility of the manufacturer.

Declaration for product(s) of the type:

DigiLine gauge with EtherCAT interface

CCT 361 EC	CCT 371 EC
CCT 362 EC	CCT 372 EC
CCT 363 EC	CCT 373 EC
CCT 364 EC	CCT 374 EC
CCT 365 EC	CCT 375 EC

We hereby declare that the listed product satisfies all relevant provisions of the following **British Directives**.

Electromagnetic Compatibility Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Applied standards and specifications:

EN IEC 61000-6-2:2019

EN IEC 61000-6-3:2021

EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019

EN IEC 61326-1:2021

EN IEC 63000:2018

The manufacturer's authorized representative in the United Kingdom and the authorized agent for compiling the technical documentation is Pfeiffer Vacuum Ltd, 16 Plover Close, Interchange Park, MK169PS Newport Pagnell.

Signature:

Pfeiffer Vacuum GmbH
Berliner Straße 43
35614 Asslar
Germany

(Daniel Sälzer)
Managing Director

Asslar, 2023-06-26

UK CA

PFEIFFER VACUUM

UK Declaration of Conformity

This declaration of conformity has been issued under the sole responsibility of the manufacturer.

Declaration for product(s) of the type:

DigiLine gauge with EtherCAT

CPT 200 EC

PPT 200 EC

RPT 200 EC

HPT 200 EC

MPT 200 EC

We hereby declare that the listed product satisfies all relevant provisions of the following **British Directives**.

Electromagnetic Compatibility Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Applied standards and specifications:

EN IEC 61326-1:2021

EN IEC 63000:2018

The manufacturer's authorized representative in the United Kingdom and the authorized agent for compiling the technical documentation is Pfeiffer Vacuum Ltd, 16 Plover Close, Interchange Park, MK169PS Newport Pagnell.

Signature:

Pfeiffer Vacuum GmbH
Berliner Straße 43
35614 Asslar
Germany

(Daniel Sälzer)
Managing Director

Asslar, 2023-01-25

UK CA

PFEIFFER VACUUM

VACUUM SOLUTIONS FROM A SINGLE SOURCE

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Are you looking for a perfect vacuum solution? Please contact us

Pfeiffer Vacuum GmbH
Headquarters • Germany
T +49 6441 802-0
info@pfeiffer-vacuum.de

www.pfeiffer-vacuum.com

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