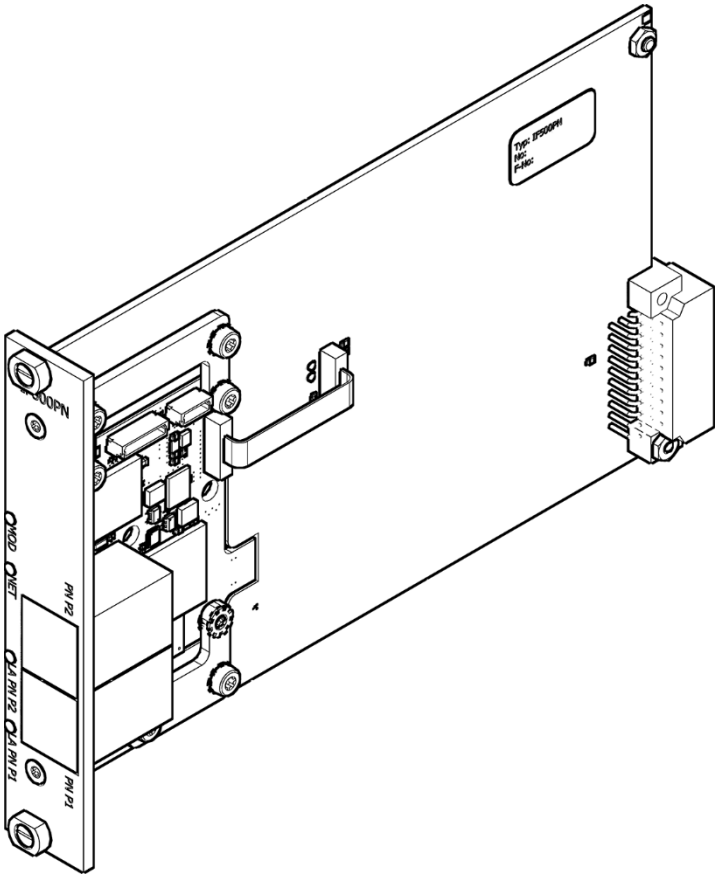
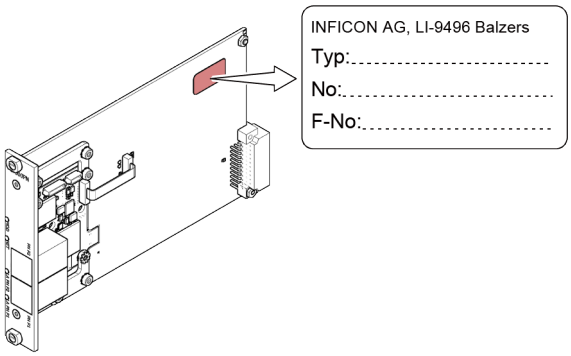
Profinet Interface Board for Total Pressure Gauge Controller VGC094

IF500PN



Product Identification

In all communications with INFICON, please specify the information on the product nameplate.



Validity

This document applies to products with part number:

398-421

The part number (No) can be found on the product nameplate.

This manual is based on firmware version V1.30.

If the device is not functioning as described, check whether the correct firmware version is installed.

At least firmware version V1.30 or higher must be installed on the VGC094.

Intended Use

This Communication Protocol contains instructions for operating Profinet interfaces (slaves) together with a master.

The VGC094 can be equipped with a Profinet interface. The corresponding IF500PN interface board in plug-in position C of the VGC094 is required. This board has the standardized Profinet interface.

Information for installation and connection → 🕮 [2].

For safety information, specifications and operation instructions of the VGC094 → 🕮 [1].

Profinet Interface

This manual describes the functionality of a Profinet.

For operating the VGC094 via Profinet, prior installation of the device specific GSDML file is required on the bus master side. This file can be downloaded from our website (www.inficon.com).

Trademark

Profinet ® PROFIBUS Nutzerorganisation e.V. (PNO), Germany

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A: Literature 49

For cross-references within this document, the symbol (→ 🗎 XY) is used; for cross-references to further documents listed under ‘Literature’, use is made of the symbol (→ 🕮 [Z]).

1 Technical Data

Communication protocol	protocol specialized for Profinet
Data rate	100 Mbp/s
Physical layer	100BASE-Tx (IEEE 802.3)
Profinet connector	2 × RJ45, 8-pin (socket) <IN>: Profinet input <OUT> Profinet output
Cable	shielded, special Ethernet Patch Cable (CAT5e quality or higher)
Cable length	≤100 m
Cyclic data	IO-data
Acyclic data	configuration, responses and information

2 Interface Connection

Making an Profinet interface cable

For operating the VGC094 via Profinet, two interface cables conforming to the Profinet standard are required.

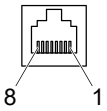
If no such cables are available, make two according to the following indications.

Cable type

Ethernet Patch Cable (CAT5e quality) with FCC68 connector.

Procedure

❶ Pin assignment:



FCC68, 8-pin,
male, soldering side

Pin	Signal	Description
1	TD+	Transmission Data +
2	TD-	Transmission Data -
3	RD+	Receive Data +
4	nu	not used
5	nu	not used
6	RD-	Receive Data -
7	nu	not used
8	nu	not used

❷ Plug the Profinet cables connector into the interface board: From the previous device the cable connected to OUT port has to be connected to the IF500PN IN port <PN P1>. And the cable from the IF500PN OUT port <PN P2> has to be connected to the next device's IN port.

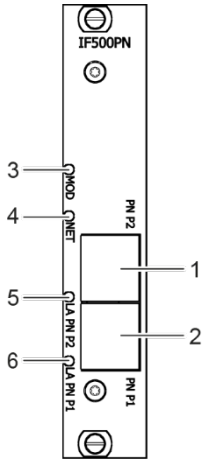
3 Operation

3.1 Introduction

Via the Profinet interface, the following and further data are exchanged in the standardized Profinet protocol:

- Pressure sensor values and status
- Pressure unit
- Device error messages

3.2 Front View



Position	Label	Function
1	PN P2	Profinet OUT connector
2	PN P1	Profinet IN connector
3	MOD	The MOD LED indicates the module status of the IF500PN
4	NET	The NET-LED indicates the network status of the IF500PN
5	LA PN P2	Link activity Profinet OUT
6	LA PN P1	Link activity Profinet IN

3.3 Indicators

3.3.1 <MOD> LED

Displays the module status.

MOD

Color	LED State	Description
	off	No power OR Module in SETUP or NW_INIT state.
green	on	Module has shifted from the NW_INIT state.
	1 flash	Diagnostic event(s) present
red	on	Device in state Exception Major internal error (this indications combined with a red network status LED
red/ green	alternating (red/green)	Firmware update. Do NOT power off the module. Turning the module off during this phase could cause permanent damage.

3.3.2 <NET> LED

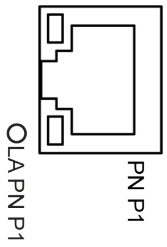
Displays the network status.

ONET

Color	LED State	Description
	off	No power, No connection with IO Controller.
green	1 flash	Connection with IO Controller established IO Controller in STOP state or IO data bad IRT synchronization not finished
	blinking	Used by engineering tools to identify the node on the network.
	on	Connection with IO Controller established IO Controller in RUN state
red	on	Major internal error(the indication is combined with a red module status LED
	1 flash	Station name not set
	2 flashes	IP address not set
	3 flashes	Expected Identification differs from read identification

3.3.3 <LA PN P1> LED (<PN P1> Port)

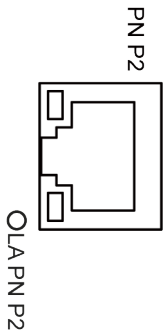
Displays the input status.



Color	LED State	Description
green	off	Port not connected or no power applied to device.
	blinking	Port connected and communication active.
	on	Port connected but no communication.

3.3.4 <LA PN P2> LED (<PN P2> Port)

Displays the output status.



Color	LED State	Description
green	off	Port not connected or no power applied to device.
	blinking	Port connected and communication active.
	on	Port connected but no communication.

4 Object Structure

This chapter describes the cyclic data and acyclic data.

Cyclic data are provided and updated regularly. Therefore, they are called process data or cyclic data.

Acyclic data needs to be requested by the user.

Explanations for the abbreviations in the columns of the tables are given below:

Abbr.	Description
Access	parameter read/write access • RO: object can only be read by the SDO service • WO: object can only be written by the SDO service • RW: object can be both read and written by the SDO service
Index	Index for the parameter (Slot = 0, Subslot = 1)
NV	Nonvolatile; attribute value is maintained through power cycles
Object	Abstract representation of a particular component within a device, which consists of data, parameters, and methods.
SI	Subindex (hex.) (sub-address of an object)
Type	Data Type • BOOL, BIT = 1 bit. Boolean (0 = false, 1 = true) • USINT, BYTE = 8 bit. Unsigned Byte • UINT = 16 bit. Unsigned integer value • UDINT = 32 bit. Unsigned integer value • ULINT = 64 bit. Unsigned integer value • REAL = 32 bit. Floating point • V_STRING = 8×n bit. Visible string (1 byte for character) • BYTE_ARR(n) = Array of bytes with n bytes

4.1 Cyclic Data VGC094

The cyclic data are divided into output and input data. This chapter shows examples of how the cyclic data are organized depending on the measurement board configuration.

4.1.1 Output Data - Status

Live-signal from IO-controller.

Module Name:	Status
Module Ident Number:	0x00001000
Submodule Name:	LiveOutput
Submodule Ident Number:	0x00001000
Slot:	1
Subslot:	2

DataType	DataSize [Byte]	Access	Name
UINT	2	Output	LiveOutput

4.1.2 Input Data - Status

Module Name: Status
Submodule Ident Number: 0x00001000

Submodule SetpointStatus

Submodule Name: SetpointStatus
Submodule Ident Number: 0x00002000
Slot: 1
Subslot: 20

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	SetpointStatus

Available device menu SetpointStatus:

Data Units	
0b000edcba	
a	Relay 1 status
b	Relay 2 status
c	Relay 3 status
d	Relay 4 status
e	Error relay status
Relay Status	
0	Off
1	On

Submodule Unit

Submodule Name: Unit
Submodule Ident Number: 0x00002001
Slot: 1
Subslot: 21

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	Unit

Unit of measurement:

Data Units	
0	hPascal
1	mbar (default)
2	Torr
3	Pascal
4	Micron
5	Volt
6	Ampere

Submodule ErrorStatus

Submodule Name: ErrorStatus
Submodule Ident Number: 0x00002002
Slot: 1
Subslot: 22

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	ErrorStatus

Available device menu ErrorStatus:

Data Units	
0000	No error
1000	Device error, see display VGC094
0100	Hardware not installed
0010	Invalid parameter
0001	Syntax error

Submodule LiveInput

Live-signal answer from IO-device to LiveOutput (1:1 copy).

Submodule Name: LiveInput
Submodule Ident Number: 0x00002003
Slot: 1
Subslot: 23

DataType	DataSize [Byte]	Access	Name
UINT	2	Input	LiveInput

4.1.3 Input Data – PI300x

Module Ident Number for …
… PI300D: 0x00002000
… PI300DN: 0x00002001
… PI300DL: 0x00002002

Submodule Ident Number for …
… SensorStatusPirani1: 0x00002000
… SensorValuePirani1: 0x00002001
… SensorStatusPirani2: 0x00002002
… SensorValuePirani2: 0x00002003

Slot: 2 (measurement board A)
Slot: 3 (measurement board B)
Subslot: see examples below

The following mapping examples use module PI300D installed in slot 2 (measurement board A).

Submodule SensorStatusPirani1

Submodule Name: SensorStatusPirani1
Submodule Ident Number: 0x00002000
Slot: 2
Subslot: 20

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	SensorStatusPirani1

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

Submodule SensorValuePirani1

Submodule Name: SensorValuePirani1
Submodule Ident Number: 0x00002001
Slot: 2
Subslot: 21

DataType	DataSize [Byte]	Access	Name
REAL	4	Input	SensorValuePirani1

Submodule SensorStatusPirani2

Submodule Name: SensorStatusPirani2
Submodule Ident Number: 0x00002002
Slot: 2
Subslot: 22

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	SensorStatusPirani2

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

Submodule SensorValuePirani2

Submodule Name: SensorValuePirani2
Submodule Ident Number: 0x00002003
Slot: 2
Subslot: 23

DataType	DataSize [Byte]	Access	Name
REAL	4	Input	SensorValuePirani2

4.1.4 Input Data – PE300DC9

Module Ident Number for …
… PE300DC9: 0x00003000

Submodule Ident Number for …
… SensorStatusColdCathode1: 0x00002000
… SensorValueColdCathode1: 0x00002001
… SensorStatusColdCathode2: 0x00002002
… SensorValueColdCathode2: 0x00002003

Slot: 2 (measurement board A)
Slot: 3 (measurement board B)
Subslot: see examples below

The following mapping examples use module PE300DC9 installed in slot 3 (measurement board B).

Submodule SensorStatusColdCathode1

Submodule Name: SensorStatusColdCathode1
Submodule Ident Number: 0x00002000
Slot: 3
Subslot: 20

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	SensorStatusColdCathode1

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

Submodule SensorValueColdCathode1

Submodule Name: SensorValueColdCathode1
Submodule Ident Number: 0x00002001
Slot: 3
Subslot: 21

DataType	DataSize [Byte]	Access	Name
REAL	4	Input	SensorValueColdCathode1

Submodule SensorStatusColdCathode2

Submodule Name: SensorStatusColdCathode2
Submodule Ident Number: 0x00002002
Slot: 3
Subslot: 22

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	SensorStatusColdCathode2

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

Submodule SensorValueColdCathode2

Submodule Name: SensorValueColdCathode2
Submodule Ident Number: 0x00002003
Slot: 3
Subslot: 23

DataType	DataSize [Byte]	Access	Name
REAL	4	Input	SensorValueColdCathode2

4.1.5 Input Data – CP300x

Module Ident Number for …
… CP300C9: 0x00004000
… CP300T9LCERN: 0x00004001
… CP300C10: 0x00004002
… CP300T11: 0x00004003
… CP300T11LCERN: 0x00004004
… CP300T11L: 0x00004005

Submodule Ident Number for …
… SensorStatusPirani2: 0x00002000
… SensorValuePirani2: 0x00002001
… SensorStatusColdCathode1: 0x00002002
… SensorValueColdCathode1: 0x00002003

Slot: 2 (measurement board A)
Slot: 3 (measurement board B)
Subslot: see examples below

The following mapping examples use module CP300C9 installed in slot 3 (measurement board B).

Submodule SensorStatusPirani2

Submodule Name: SensorStatusPirani2
Submodule Ident Number: 0x00002000
Slot: 3
Subslot: 20

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	SensorStatusPirani2

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

Submodule SensorValuePirani2

Submodule Name: SensorValuePirani2
Submodule Ident Number: 0x00002001
Slot: 3
Subslot: 21

DataType	DataSize [Byte]	Access	Name
REAL	4	Input	SensorValuePirani2

Submodule SensorStatusColdCathode1

Submodule Name: SensorStatusColdCathode1
Submodule Ident Number: 0x00002002
Slot: 3
Subslot: 22

DataType	DataSize [Byte]	Access	Name
BYTE	1	Input	SensorStatusColdCathode1

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

Submodule
SensorValueColdCathode1

Submodule Name: SensorValueColdCathode1
Submodule Ident Number: 0x00002003
Slot: 3
Subslot: 23

DataType	DataSize [Byte]	Access	Name
REAL	4	Input	SensorValueColdCathode1

4.2 Object Dictionary VGC094

The parameter for the objects are in groups. They can be accessed with the acyclic read and write commands. To read these parameters the slot and subslot must be set accordingly. The index can be found for each individual parameter below.

Module Ident Number VGC094: 0x01F40100
Submodule Ident Number VGC094: 0x00000010
Slot: 0
Subslot: 10
Index: see individual parameter

4.2.1 Configure Unit

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0020	BYTE	1	X	RW	Unit

Unit of measurement:

Data Units	
0	hPascal (default)
1	mbar
2	Torr
3	Pascal
4	Micron
5	Volt
6	Ampere

4.2.2 Configure Language

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0030	BYTE	1	X	RW	Language

Language (user interface):

Data Units	
0	English (default)
1	German
2	French

4.2.3 Configure Key Lock

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0040	BYTE	1	X	RW	KeyLock

Input lock:

Data Units	
0	Off (default)
1	On
2	On (only via interface) If the key lock was activated via interface with "2", it can only be deactivated again via the interface.

4.2.4 Configure Torr Lock

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0050	BYTE	1	X	RW	TorrLock

Torr lock:

Data Units	
0	Off (default)
1	On

4.2.5 Configure Penning Underrange Control

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0060	BYTE	1	X	RW	PenningUnderrangeControl

Underrange control:

Data Units	
0	Off (default)
1	On

4.2.6 Configure End Value

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0070	BYTE	1	X	RW	EndValue

Upper range value:

Data Units	
0	UR or OR is displayed (default)
1	The upper range value is displayed for values above or below the measuring range

4.2.7 Configure Analog Output Mode

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0090	BYTE	1	X	RW	AnalogOutputMode

Analog output mode:

Data Units	
0	Off (default)
1	0 … 5 V
2	0 … 10 V
3	4 … 20 mA

4.2.8 Configure Parameter Save

Index	DataType	DataSize [Byte]	NV	Access	Name
0x00A0	BYTE	1	–	WO	ParameterSave

Available device menu ParameterSave:

Data Units	
0	store standard parameters (default) The factory settings are written to the EEPROM. The VGC094 is thus reset to the factory settings!
1	store user parameters (user) Writing the actual set parameters to the EEPROM.

The VGC094 always works with the parameters stored in the EEPROM (max. cycles EEPROM ~1.000.000).

Caution

Interruption of the current connection

Resetting the parameters to the factory setting also resets communication parameters (e.g. transmission rate, Ethernet settings) and may lead to an interruption of the current connection.

Only reset parameters to factory settings if it is guaranteed that no malfunction is triggered by an interruption of the current connection.

4.2.9 Information Setpoint Status

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0100	BYTE	1	–	RO	SetpointStatus

Available device menu SetpointStatus:

Data Units	
0b000edcba	
a	Relay 1 status
b	Relay 2 status
c	Relay 3 status
d	Relay 4 status
e	Error relay status
Relay Status	
0	Off
1	On

4.2.10 Configure Setpoint Control Relay1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0110	BYTE	1	X	RW	SetpointControlRelay1

Available device menu SetpointControlRelay1:

Data Units	
0	Switched off (default)
1	Measurement channel A1
2	Measurement channel A2
3	Measurement channel B1
4	Measurement channel B2
5	Switched on

4.2.11 Configure Setpoint Low Threshold Relay1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0111	REAL	4	X	RW	SetpointLowThresholdRelay1

Available device menu SetpointLowThresholdRelay1:

Data Units	
x.xEsxx	5.0E-03 default 1.1E-11 Lower limit 9.9E+03 Upper limit

4.2.12 Configure Setpoint High Thres-hold Relay1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0112	REAL	4	X	RW	SetpointHighThresholdRelay1

Available device menu SetpointHighThresholdRelay1:

Data Units	
x.xEsxx	6.0E-03 default 1.1E-11 Lower limit 9.9E+03 Upper limit

4.2.13 Configure Setpoint Control Relay2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0120	BYTE	1	X	RW	SetpointControlRelay2

Available device menu SetpointControlRelay2:

Data Units	
0	Switched off (default)
1	Measurement channel A1
2	Measurement channel A2
3	Measurement channel B1
4	Measurement channel B2
5	Switched on

4.2.14 Configure Setpoint Low Threshold Relay2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0121	REAL	4	X	RW	SetpointLowThresholdRelay2

Available device menu SetpointLowThresholdRelay2:

Data Units	
x.xEsxx	5.0E-03 default 1.1E-11 Lower limit 9.9E+03 Upper limit

4.2.15 Configure Setpoint High Threshold Relay2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0122	REAL	4	X	RW	SetpointHighThresholdRelay2

Available device menu SetpointHighThresholdRelay2:

Data Units	
x.xEsxx	6.0E-03 default 1.1E-11 Lower limit 9.9E+03 Upper limit

4.2.16 Configure Setpoint Control Relay3

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0130	BYTE	1	X	RW	SetpointControlRelay3

Available device menu SetpointControlRelay3:

Data Units	
0	Switched off (default)
1	Measurement channel A1
2	Measurement channel A2
3	Measurement channel B1
4	Measurement channel B2
5	Switched on

4.2.17 Configure Setpoint Low Threshold Relay3

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0131	REAL	4	X	RW	SetpointLowThresholdRelay3

Available device menu SetpointLowThresholdRelay3:

Data Units	
x.xEsxx	5.0E-03 default 1.1E-11 Lower limit 9.9E+03 Upper limit

4.2.18 Configure Setpoint High Threshold Relay3

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0132	REAL	4	X	RW	SetpointHighThresholdRelay3

Available device menu SetpointHighThresholdRelay3:

Data Units	
x.xEsxx	6.0E-03 default 1.1E-11 Lower limit 9.9E+03 Upper limit

4.2.19 Configure Setpoint Control Relay4

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0140	BYTE	1	X	RW	SetpointControlRelay4

Available device menu SetpointControlRelay4:

Data Units	
0	Switched off (default)
1	Measurement channel A1
2	Measurement channel A2
3	Measurement channel B1
4	Measurement channel B2
5	Switched on

4.2.20 Configure Setpoint Low Threshold Relay4

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0141	REAL	4	X	RW	SetpointLowThresholdRelay4

Available device menu SetpointLowThresholdRelay4:

Data Units	
x.xEsxx	5.0E-03 default 1.1E-11 Lower limit 9.9E+03 Upper limit

4.2.21 Configure Setpoint High Threshold Relay4

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0142	REAL	4	X	RW	SetpointHighThresholdRelay4

Available device menu SetpointHighThresholdRelay4:

Data Units	
x.xEsxx	6.0E-03 default 1.1E-11 Lower limit 9.9E+03 Upper limit

4.2.22 Configure Error Status

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0180	BYTE	1	–	RO	ErrorStatus

Available device menu ErrorStatus:

Data Units	
0000	No error
1000	Device error, see display VGC094
0100	Hardware not installed
0010	Invalid parameter
0001	Syntax error

4.2.23 Configure Error Relay Allocation

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0190	BYTE	1	X	RW	ErrorRelayAllocation

Available device menu ErrorRelayAllocation:

Data Units	
0	All errors
1	Only device error
2	Error sensor A1 and device error
3	Error sensor A2 and device error
4	Error sensor B1 and device error
5	Error sensor B2 and device error

4.2.24 Configure Display Backlight

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0200	BYTE	1	X	RW	DisplayBacklight

Available device menu DisplayBacklight:

Data Units	
0 … 100%	default = 40%

4.2.25 Configure Display Contrast

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0210	BYTE	1	X	RW	DisplayContrast

Available device menu DisplayContrast:

Data Units	
0 … 100%	default = 40%

4.2.26 Configure Display Screensaver

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0220	BYTE	1	X	RW	DisplayScreensaver

Available device menu DisplayScreensaver:

Data Units	
0	Off (default)
1	After 10 minutes
2	After 30 minutes
3	After 1 hour
4	After 2 hours
5	After 8 hours
6	Switches off the background light completely after 1 minute (dark room)

4.2.27 Configure Display Bargraph

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0230	BYTE	1	X	RW	DisplayBargraph

Available device menu DisplayBargraph:

Data Units	
0	Switched off (default)
1	Bar graph over entire measuring range of gauge
2	Bar graph over entire measuring range of gauge and switch-point threshold value
3	Bar graph over one decade according to current measured value
4	Bar graph over one decade according to current measured value and switch-point threshold value
5	p = f(t), auto-scaled, 0.2 second/pixel For each measuring channel, one measured value is stored in a table every 200 ms and the last 100 measured values (=100 pixels) are auto-scaled in the display. The illustrated data series corresponds to a recording duration of 20 seconds.
6	p = f(t), auto-scaled, 1 second/pixel For each measuring channel, one measured value is stored in a table every second and the last 100 measured values (=100 pixels) are auto-scaled in the display. The illustrated data series corresponds to a recording duration of 100 seconds.
7	p = f(t), auto-scaled, 6 second/pixel For each measuring channel, one measured value is stored in a table every 6 seconds and the last 100 measured values (=100 pixels) are auto-scaled in the display. The illustrated data series is equivalent to a recording duration of 10 minutes.
8	p = f(t), auto-scaled, 1 minute/pixel For each measuring channel, one measured value is stored in a table every minute and the last 100 measured values (=100 pixels) are auto-scaled in the display. The illustrated data series is equivalent to a recording duration of 100 minutes.
9	p = f(t), auto-scaled, 30 minutes/pixel For each measuring channel, one measured value is stored in a table every 30 minutes and the last 100 measured values (=100 pixels) are auto-scaled in the display. The illustrated data series is equivalent to a recording duration of 50 hours.
10	Identification: The plug-in board type and the name of the measuring point are displayed for the selected measuring channel.
11	The name of the measuring point and the assigned switch-points are displayed for the selected measuring channel.

4.2.28 Configure Date

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0300	V_STRING	10	X	RW	Date

Available device menu Date:

Data Units	
yyyy-mm-dd	set in production

4.2.29 Configure Time

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0310	V_STRING	5	X	RW	Time

Available device menu Time:

Data Units	
hh:mm	Time in format hh:mm [24 hours]

4.2.30 Configure Run Hours

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0320	UDINT	4	–	RO	RunHours

Available device menu RunHours:

Data Units	
h	Operating hours, e.g. 24 [hours]

4.2.31 Configure Calibration Date

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0330	V_STRING	10	X	RW	CalibrationDate

Available device menu CalibrationDate:

Data Units	
yyyy-mm-dd	Date of next recalibration. If the date was reached, a warning is issued.

4.2.32 Configure Hardware Version

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0400	V_STRING	6	–	RO	HardwareVersion

Available device menu HardwareVersion:

Data Units	
010100	Hardware version, e.g. 010100

4.2.33 Configure Device Reset

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0500	BYTE	1	–	WO	DeviceReset

Available device menu DeviceReset:

Data Units	
0xAA; 10101010 bin	Reboot the VGC094

4.2.34 Configure Protocol

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0600	BYTE	1	X	RW	Protocol

Available device menu Protocol:

Data Units	
0	Auto (default)
1	PV Protocol
2	Mnemonics Protocol

After setting on the VGC094 or (SAVE), the PN is disconnected at "1" or "2".

4.2.35 Configure Node Address

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0610	BYTE	1	X	RW	NodeAddress

Available device menu NodeAddress:

Data Units	
RS485	Node address

4.2.36 Configure Baudrate RS485

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0620	BYTE	1	X	RW	BaudrateRS485

Available device menu BaudrateRS485:

Data Units	
0	9600 Baud (default)
1	19200 Baud
2	38400 Baud
3	57600 Baud
4	115200 Baud

4.2.37 Configure Baudrate USB

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0630	BYTE	1	X	RW	BaudrateUSB

Available device menu BaudrateUSB:

Data Units	
0	9600 Baud (default)
1	19200 Baud
2	38400 Baud
3	57600 Baud
4	115200 Baud

4.2.38 Configure Network DHCP

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0700	BYTE	1	X	RW	NetworkDHCP

Parameters 0x0710, 0x0720 and 0x0730 must be set first for static configuration. They are only applied when 0x0700 is set to 0.

Available device menu NetworkDHCP:

Data Units	
0	static (default)
1	dynamic

4.2.39 Configure Network Ip Address

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0710	V_STRING	15	X	RW	NetworkIpAddress

Available device menu NetworkIpAddress:

Data Units	
xxx.xxx.xxx.xxx	192.168.0.1 = default 0.0.0.0 = lower limit 255.255.255.255 = upper limit

4.2.40 Configure Network Subnet Mask

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0720	V_STRING	15	X	RW	NetworkSubnetMask

Available device menu NetworkSubnetMask:

Data Units	
xxx.xxx.xxx.xxx	255.0.0.0 = default 0.0.0.0 = lower limit 255.255.255.255 = upper limit

4.2.41 Configure Network Gateway Address

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0730	V_STRING	15	X	RW	NetworkGatewayAddress

Available device menu NetworkGatewayAddress:

Data Units	
xxx.xxx.xxx.xxx	0.0.0.0 = default 0.0.0.0 = lower limit 255.255.255.255 = upper limit

4.2.42 Configure Network MAC

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0740	V_STRING	17	–	RO	NetworkMAC

Available device menu NetworkMAC:

Data Units	
aa-aa-aa-aa-aa-aa	set in production 00-00-00-00-00-00 = lower limit FF-FF-FF-FF-FF-FF = upper limit

4.2.43 Configure Data Logger

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0800	BYTE	1	X	RW	Datalogger

Available device menu Datalogger:

Data Units	
0	stop / idle (default)
1	start / busy
2	clear

4.2.44 Configure Data Logger Mode

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0810	BYTE	1	X	RW	DataloggerMode

Available device menu DataloggerMode:

Data Units	
0	manual (default)
1	automatic

4.2.45 Configure Data Logger Interval

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0820	BYTE	1	X	RW	DataloggerInterval

Available device menu DataloggerInterval:

Data Units	
0	Recording interval 1 s
1	Recording interval 10 s
2	Recording interval 30 s
3	Recording interval 1 min
4	With measured value change ≥1%
5	With measured value change ≥5%

4.2.46 Configure Data Logger Separator

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0830	BYTE	1	X	RW	DataloggerSeparator

Available device menu DataloggerSeparator:

Data Units	
0	"," (comma) = default
1	"." (point)

4.2.47 Configure Data Logger Filename

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0840	STING	8	X	RW	DataloggerFilename

Available device menu DataloggerFilename:

Data Units	
Filename	max. 8 characters DATALOG = default

4.2.48 Configure Setup Save

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0900	BYTE	1	–	WO	SetupSave

Available device menu SetupSave:

Data Units	
File	Number of file (0 … 99)

4.2.49 Configure Setup Restore

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0910	BYTE	1	–	WO	SetupRestore

Available device menu SetupRestore:

Data Units	
File	Number of file (0 … 99)

4.2.50 Configure Setup Format

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0920	BYTE	1	–	RW	SetupFormat

Format USB storage device (FAT32).

Available device menu SetupFormat:

Data Units	
0	Formatting inactive (default)
1	Formatting active

4.2.51 Configure Setup Clear

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0930	BYTE	1	–	RW	SetupClear

Delete setup files from USB storage medium.

Available device menu SetupClear:

Data Units	
0	Deletion process inactive (default)
1	Deletion process active

4.2.52 Configure Live Output

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0A00	UINT	2	–	RW	LiveOutput

Live signal sent from IO controller.

4.2.53 Configure Live Input

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0A10	UINT	2	–	RO	LiveInput

Live signal response from IO device to LiveOutput (1:1 copy).

4.2.54 Configure SW Version Complete Device

Index	DataType	DataSize [Byte]	NV	Access	Name
0x00B4	V_STRING	14	–	RO	SWVersionCompleteDevice

Software version of the complete device.

Data Units	
AA.BB.CC.DDDD	00.00.00.0000 = default 99.99.99.9999 = upper limit AA = compatibility BB = release version CC = development version DDDD = build version

4.2.55 Configure SW Version VGC094

Index	DataType	DataSize [Byte]	NV	Access	Name
0x00B5	V_STRING	14	–	RO	SWVersionVGC094

Software version of the VGC094.

Data Units	
AA.BB.CC.DDDD	eg. 00.01.00.0123 00.00.00.0000 = lower limit 99.99.99.9999 = upper limit AA = compatibility BB = release version CC = development version DDDD = build version

4.2.56 Configure SW Version Fieldbus

Index	DataType	DataSize [Byte]	NV	Access	Name
0x00B6	V_STRING	14	–	RO	SWVersionFieldbus

Software version of the fieldbus unit.

Data Units	
AA.BB.CC.DDDD	eg. 00.01.00.0123 00.00.00.0000 = lower limit 99.99.99.9999 = upper limit AA = compatibility BB = release version CC = development version DDDD = build version

4.2.57 Configure SW Version NP40

Index	DataType	DataSize [Byte]	NV	Access	Name
0x00B7	V_STRING	14	–	RO	SWVersionNP40

Software version of the NP40 chip.

Data Units	
AAA.BBB.CCC	000.000.000 = default 999.999.999 = upper limit AAA = compatibility BBB = release version CCC = development version

4.2.58 Configure HW Version Fieldbus

Index	DataType	DataSize [Byte]	NV	Access	Name
0x00BB	V_STRING	8	–	RO	HWVersionFieldbus

Will return the current hardware version of the fieldbus unit.

Data Units	
AA.BB.CC	eg. 01.01.00 00.00.00 = lower limit 99.99.99 = upper limit AA = compatibility BB = release version CC = development version

4.2.59 Configure Device Type

Index	DataType	DataSize [Byte]	NV	Access	Name
0x00FE	V_STRING	25	–	RO	DeviceType

Shows the name of the product (e.g. VGC094)

4.3 Object Dictionary PI300x

The parameter for the objects are in groups. They can be accessed with the acyclic read and write commands. To read this parameters the slot and subslot must be set accordingly. The Index can be found for each individual parameter below.

Module Ident Number for …

… PI300D:	0x00002000
… PI300DN:	0x00002001
… PI300DL:	0x00002002
Submodule Ident Number:	0x00000001
Slot:	2 (measurement board A)
Slot:	3 (measurement board B)
Subslot:	1
Index:	see individual parameter

Index 0x0300-0x0700: for [A1] or [B1]
Index 0x1300-0x1700: for [A2] or [B2]

4.3.1 Information Sensor Status Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0300	BYTE	1	X	RO	SensorStatusPirani1

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

4.3.2 Information Sensor Value Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0310	REAL	4	–	RO	SensorValuePirani1

Default: 0.0E+00
Lower limit: 0.0E+00
Upper limit: 9.9E+03

4.3.3 Configure Sensor Identifier Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0320	V_STRING	8	X	RW	SensorIdentifierPirani1

Sensor identifier values:

Data Units	
xxxxxxxx	8 character string

4.3.4 Configure Sensor Control Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0400	BYTE	1	X	RW	SensorControlPirani1

Sensor control values:

Data Units	
0	No action
1	OFF (manual)
2	Automatic
3	ON (manual)

4.3.5 Configure Sensor Control On Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0401	BYTE	1	X	RW	SensorControlOnPirani1

Sensor control on values:

Data Units	
0	manual (default)
1	hot start
2	activation by sensor A1
3	activation by sensor A2
4	activation by sensor B1
5	activation by sensor B2
6	hot start + A1
7	hot start + A2
8	hot start + B1
9	hot start + B2
10	previous
11	previous + A1
12	previous + A2
13	previous + B1
14	previous + B2

4.3.6 Configure Sensor Control On Threshold Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0410	REAL	4	X	RW	SensorControlOnThreshold Pirani1

Sensor control on threshold values:

Data Units	
x.xxEsxx	5.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.3.7 Configure Sensor Control Off Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0500	BYTE	1	X	RW	SensorControlOffPirani1

Sensor control off values:

Data Units	
0	manual (default)
1	self control
2	deactivation by sensor A1
3	deactivation by sensor A2
4	deactivation by sensor B1
5	deactivation by sensor B2

4.3.8 Configure Sensor Control Off Threshold Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0510	REAL	4	X	RW	SensorControlOffThreshold Pirani1

Sensor control off threshold values:

Data Units	
x.xxEsxx	6.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.3.9 Configure Filter Pirani1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0700	BYTE	1	X	RW	FilterPirani1

Filter Pirani values:

Data Units	
0	off
1	f = 100 Hz [1)]
2	f = 10 Hz [1)] (default)
3	f = 1 Hz [1)]
4	f = 0.1 Hz [1)]

[1)] The specified frequency is the cut-off frequency of the filter.

4.3.10 Information Sensor Status Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1300	BYTE	1	X	RO	SensorStatusPirani2

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

4.3.11 Information Sensor Value Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1310	REAL	4	–	RO	SensorValuePirani2

Default: 0.0E+00
Lower limit: 0.0E+00
Upper limit: 9.9E+03

4.3.12 Configure Sensor Identifier Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1320	V_STRING	8	X	RW	SensorIdentifierPirani2

Sensor identifier values:

Data Units	
xxxxxxxx	8 character string

4.3.13 Configure Sensor Control Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1400	BYTE	1	X	RW	SensorControlPirani2

Sensor control values:

Data Units	
0	No action
1	OFF (manual)
2	Automatic
3	ON (manual)

4.3.14 Configure Sensor Control On Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1401	BYTE	1	X	RW	SensorControlOnPirani2

Sensor control on values:

Data Units	
0	manual (default)
1	hot start
2	activation by sensor A1
3	activation by sensor A2
4	activation by sensor B1
5	activation by sensor B2
6	hot start + A1
7	hot start + A2
8	hot start + B1
9	hot start + B2
10	previous
11	previous + A1
12	previous + A2
13	previous + B1
14	previous + B2

4.3.15 Configure Sensor Control On Threshold Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1410	REAL	4	X	RW	SensorControlOnThreshold Pirani2

Sensor control on threshold values:

Data Units	
x.xxEsxx	5.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.3.16 Configure Sensor Control Off Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1500	BYTE	1	X	RW	SensorControlOffPirani2

Sensor control off values:

Data Units	
0	manual (default)
1	self control
2	deactivation by sensor A1
3	deactivation by sensor A2
4	deactivation by sensor B1
5	deactivation by sensor B2

4.3.17 Configure Sensor Control Off Threshold Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1510	REAL	4	X	RW	SensorControlOffThreshold Pirani2

Sensor control off threshold values:

Data Units	
x.xxEsxx	6.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.3.18 Configure Filter Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1700	BYTE	1	X	RW	FilterPirani2

Filter Pirani values:

Data Units	
0	off
1	f = 100 Hz [1)]
2	f = 10 Hz [1)] (default)
3	f = 1 Hz [1)]
4	f = 0.1 Hz [1)]

[1)] The specified frequency is the cut-off frequency of the filter.

4.4 Object Dictionary PE300x

The parameter for the objects are in groups. They can be accessed with the acyclic read and write commands. To read this parameters the slot and subslot must be set accordingly. The Index can be found for each individual parameter below.

Module Ident Number PE300DC9: 0x00003000
Submodule Ident Number: 0x00000001
Slot: 2 (measurement board A)
Slot: 3 (measurement board B)
Subslot: 1
Index: see individual parameter

Index 0x0300-0x0700: for [A1] or [B1]
Index 0x1300-0x1700: for [A2] or [B2]

4.4.1 Information Sensor Status Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0300	BYTE	1	X	RO	SensorStatusColdCathode1

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

4.4.2 Information Sensor Value Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0310	REAL	4	–	RO	SensorValueColdCathode1

Default: 0.0E+00
Lower limit: 0.0E+00
Upper limit: 9.9E+03

4.4.3 Configure Sensor Identifier Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0320	V_STRING	8	X	RW	SensorIdentifierCold Cathode1

Sensor identifier values:

Data Units	
xxxxxxxx	8 character string

4.4.4 Configure Sensor Control Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0400	BYTE	1	X	RW	SensorControlColdCathode1

Sensor control values:

Data Units	
0	No action
1	OFF (manual)
2	Automatic
3	ON (manual)

4.4.5 Configure Sensor Control On Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0401	BYTE	1	X	RW	SensorControlOnCold Cathode1

Sensor control on values:

Data Units	
0	manual (default)
1	hot start
2	activation by sensor A1
3	activation by sensor A2
4	activation by sensor B1
5	activation by sensor B2
6	hot start + A1
7	hot start + A2
8	hot start + B1
9	hot start + B2
10	previous
11	previous + A1
12	previous + A2
13	previous + B1
14	previous + B2

4.4.6 Configure Sensor Control On Threshold Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0410	REAL	4	X	RW	SensorControlOnThreshold ColdCathode1

Sensor control on threshold values:

Data Units	
x.xxEsxx	5.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.4.7 Configure Sensor Control Off Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0500	BYTE	1	X	RW	SensorControlOffCold Cathode1

Sensor control off values:

Data Units	
0	manual (default)
1	self control
2	deactivation by sensor A1
3	deactivation by sensor A2
4	deactivation by sensor B1
5	deactivation by sensor B2

4.4.8 Configure Sensor Control Off Threshold Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0510	REAL	4	X	RW	SensorControlOffThreshold ColdCathode1

Sensor control off threshold values:

Data Units	
x.xxEsxx	6.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.4.9 Configure Filter Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0700	BYTE	1	X	RW	FilterColdCathode1

Filter Pirani values:

Data Units	
0	off
1	f = 100 Hz [1)]
2	f = 10 Hz [1)] (default)
3	f = 1 Hz [1)]
4	f = 0.1 Hz [1)]

[1)] The specified frequency is the cut-off frequency of the filter.

4.4.10 Information Sensor Status Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1300	BYTE	1	X	RO	SensorStatusColdCathode2

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

4.4.11 Information Sensor Value Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1310	REAL	4	–	RO	SensorValueColdCathode2

Default: 0.0E+00
Lower limit: 0.0E+00
Upper limit: 9.9E+03

4.4.12 Configure Sensor Identifier Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1320	V_STRING	8	X	RW	SensorIdentifierCold Cathode2

Sensor identifier values:

Data Units	
xxxxxxxx	8 character string

4.4.13 Configure Sensor Control Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1400	BYTE	1	X	RW	SensorControlColdCathode2

Sensor control values:

Data Units	
0	No action
1	OFF (manual)
2	Automatic
3	ON (manual)

4.4.14 Configure Sensor Control On Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1401	BYTE	1	X	RW	SensorControlOnCold Cathode2

Sensor control on values:

Data Units	
0	manual (default)
1	hot start
2	activation by sensor A1
3	activation by sensor A2
4	activation by sensor B1
5	activation by sensor B2
6	hot start + A1
7	hot start + A2
8	hot start + B1
9	hot start + B2
10	previous
11	previous + A1
12	previous + A2
13	previous + B1
14	previous + B2

4.4.15 Configure Sensor Control On Threshold Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1410	REAL	4	X	RW	SensorControlOnThreshold ColdCathode2

Sensor control on threshold values:

Data Units	
x.xxEsxx	5.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.4.16 Configure Sensor Control Off Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1500	BYTE	1	X	RW	SensorControlOffCold Cathode2

Sensor control off values:

Data Units	
0	manual (default)
1	self control
2	deactivation by sensor A1
3	deactivation by sensor A2
4	deactivation by sensor B1
5	deactivation by sensor B2

4.4.17 Configure Sensor Control Off Threshold Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1510	REAL	4	X	RW	SensorControlOffThreshold ColdCathode2

Sensor control off threshold values:

Data Units	
x.xxEsxx	6.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.4.18 Configure Filter Cold Cathode2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1700	BYTE	1	X	RW	FilterColdCathode2

Filter Pirani values:

Data Units	
0	off
1	f = 100 Hz [1)]
2	f = 10 Hz [1)] (default)
3	f = 1 Hz [1)]
4	f = 0.1 Hz [1)]

[1)] The specified frequency is the cut-off frequency of the filter.

4.5 Object Dictionary CP300x

The parameter for the objects are in groups. They can be accessed with the acyclic read and write commands. To read this parameters the slot and subslot must be set accordingly. The Index can be found for each individual parameter below.

Module Ident Number for …

… CP300C9:	0x00004000
… CP300T9LCERN:	0x00004001
… CP300C10:	0x00004002
… CP300T11:	0x00004003
… CP300T11LCERN:	0x00004004
… CP300T11L:	0x00004005
Submodule Ident Number:	0x00000001
Slot:	2 (measurement board A)
Slot:	3 (measurement board B)
Subslot:	1
Index:	see individual parameter

Index 0x0300-0x0700: for [A2] or [B2]
Index 0x1300-0x1700: for [A1] or [B1]

4.5.1 Information Sensor Status Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0300	BYTE	1	X	RO	SensorStatusPirani2

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

4.5.2 Information Sensor Value Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0310	REAL	4	–	RO	SensorValuePirani2

Default: 0.0E+00
Lower limit: 0.0E+00
Upper limit: 9.9E+03

4.5.3 Configure Sensor Identifier Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0320	V_STRING	8	X	RW	SensorIdentifierPirani2

Sensor identifier values:

Data Units	
xxxxxxxx	8 character string

4.5.4 Configure Sensor Control Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0400	BYTE	1	X	RW	SensorControlPirani2

Sensor control values:

Data Units	
0	No action
1	OFF (manual)
2	Automatic
3	ON (manual)

4.5.5 Configure Sensor Control On Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0401	BYTE	1	X	RW	SensorControlOnPirani2

Sensor control on values:

Data Units	
0	manual (default)
1	hot start
2	activation by sensor A1
3	activation by sensor A2
4	activation by sensor B1
5	activation by sensor B2
6	hot start + A1
7	hot start + A2
8	hot start + B1
9	hot start + B2
10	previous
11	previous + A1
12	previous + A2
13	previous + B1
14	previous + B2

4.5.6 Configure Sensor Control On Threshold Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0410	REAL	4	X	RW	SensorControlOnThreshold Pirani2

Sensor control on threshold values:

Data Units	
x.xxEsxx	5.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.5.7 Configure Sensor Control Off Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0500	BYTE	1	X	RW	SensorControlOffPirani2

Sensor control off values:

Data Units	
0	manual (default)
1	self control
2	deactivation by sensor A1
3	deactivation by sensor A2
4	deactivation by sensor B1
5	deactivation by sensor B2

4.5.8 Configure Sensor Control Off Threshold Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0510	REAL	4	X	RW	SensorControlOffThreshold Pirani2

Sensor control off threshold values:

Data Units	
x.xxEsxx	6.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.5.9 Configure Filter Pirani2

Index	DataType	DataSize [Byte]	NV	Access	Name
0x0700	BYTE	1	X	RW	FilterPirani2

Filter Pirani values:

Data Units	
0	off
1	f = 100 Hz [1)]
2	f = 10 Hz [1)] (default)
3	f = 1 Hz [1)]
4	f = 0.1 Hz [1)]

[1)] The specified frequency is the cut-off frequency of the filter.

4.5.10 Information Sensor Status Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1300	BYTE	1	X	RO	SensorStatusColdCathode1

Sensor status values:

Data Units	
0	OK
1	Underrange
2	Overrange
3	Sensor Error
4	Sensor OFF
5	No Hardware

4.5.11 Information Sensor Value Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1310	REAL	4	–	RO	SensorValueColdCathode1

Default: 0.0E+00
Lower limit: 0.0E+00
Upper limit: 9.9E+03

4.5.12 Configure Sensor Identifier Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1320	V_STRING	8	X	RW	SensorIdentifierCold Cathode1

Sensor identifier values:

Data Units	
xxxxxxxx	8 character string

4.5.13 Configure Sensor Control Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1400	BYTE	1	X	RW	SensorControlColdCathode1

Sensor control values:

Data Units	
0	No action
1	OFF (manual)
2	Automatic
3	ON (manual)

4.5.14 Configure Sensor Control On Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1401	BYTE	1	X	RW	SensorControlOnCold Cathode1

Sensor control on values:

Data Units	
0	manual (default)
1	hot start
2	activation by sensor A1
3	activation by sensor A2
4	activation by sensor B1
5	activation by sensor B2
6	hot start + A1
7	hot start + A2
8	hot start + B1
9	hot start + B2
10	previous
11	previous + A1
12	previous + A2
13	previous + B1
14	previous + B2

4.5.15 Configure Sensor Control On Threshold Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1410	REAL	4	X	RW	SensorControlOnThreshold ColdCathode1

Sensor control on threshold values:

Data Units	
x.xxEsxx	5.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.5.16 Configure Sensor Control Off Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1500	BYTE	1	X	RW	SensorControlOffCold Cathode1

Sensor control off values:

Data Units	
0	manual (default)
1	self control
2	deactivation by sensor A1
3	deactivation by sensor A2
4	deactivation by sensor B1
5	deactivation by sensor B2

4.5.17 Configure Sensor Control Off Threshold Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1510	REAL	4	X	RW	SensorControlOffThreshold ColdCathode1

Sensor control off threshold values:

Data Units	
x.xxEsxx	6.0E-03 = default 1.1E-11 = lower limit 9.9E+03 = upper limit

4.5.18 Configure Filter Cold Cathode1

Index	DataType	DataSize [Byte]	NV	Access	Name
0x1700	BYTE	1	X	RW	FilterColdCathode1

Filter Pirani values:

Data Units	
0	off
1	f = 100 Hz [1)]
2	f = 10 Hz [1)] (default)
3	f = 1 Hz [1)]
4	f = 0.1 Hz [1)]

[1)] The specified frequency is the cut-off frequency of the filter.

Appendix

A: Literature

🕮 [1] Operating Manual
Total Pressure Gauge Controller VGC094
tinb68e1
Pfeiffer Vacuum GmbH, D-35614 Aßlar, Germany

🕮 [2] Operating Manual
Plug-In Boards for Total Pressure Gauge Controller VGC094
IG5972BEN
INFICON AG, LI-9496 Balzers, Liechtenstein

🕮 [3] Operating Manual
Pirani Gauges PSG010, PSG017, PSG018
tinb71e1
INFICON AG, LI-9496 Balzers, Liechtenstein

🕮 [4] Operating Manual
Cold Cathode Gauge MAG050, MAG060, MAG070
tinb43e1
INFICON AG, LI-9496 Balzers, Liechtenstein

🕮 [5] Operating Manual
Cold Cathode Gauge MAG084
tinb81e1
INFICON AG, LI-9496 Balzers, Liechtenstein

🕮 [6] Communication Protocol
Profibus-DP Interface Board for Total Pressure Gauge Controller TPG300, VGC094
IG3973BEN
INFICON AG, LI-9496 Balzers, Liechtenstein

🕮 [7] Communication Protocol
Profinet Interface Board for Total Pressure Gauge Controller VGC094
tirb68e1
INFICON AG, LI-9496 Balzers, Liechtenstein

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