MANUAL

PRESIGO PDT...C(-2)

REGIN

THANK YOU FOR CHOOSING REGIN!

Regin provides comprehensive solutions for building automation, including intuitive BMS-solutions, freely programmable and pre-programmed controllers, field devices and more.

Regin's offer, in combination with DEOS and Industrietechnik, empower system integrators, installers, and property owners with a powerful toolbox, setting them in a position to create building automation solutions that save both energy and engineering time. Today, versatile building management, optimized room control, and effective workflows have become the pillars for leading property owners in realizing significant energy savings in properties. Regin shares the clear goal of the group; to make this challenge easier on the way towards a sustainable future.

DISCLAIMER

Table of Contents

1 Introduction

1.1 About this manual

Special text formats used in the manual:

ⓘ	**Note!** This box, text, and symbol are used to highlight useful tips and tricks.
⚠	**Caution!** This box, text, and symbol are used to highlight cautions.
⚠	**Warning!** This box, text, and symbol are used to highlight warnings.

> **This box is used to show formulas and mathematical calculations**

```
This box is used to
represent the display
window on the
controller
```

1.2 More information

✓ Instruction PDT...(-2)

✓ Instruction PDT...C(-2)

✓ Product sheet PDT...(-2)

✓ Product sheet PDT...C(-2)

All the above documents are available for download from Regin's website, www.regincontrols.com

2 Information for the end user

Presigo PDT…(-2) are single or dual port pressure transmitters with one or two analogue outputs for 0…10 V or 4…20 mA (selectable) . The RS485 port can be easily configured for either EXOline or Modbus communication. The transmitter can be used as a slave unit in an EXOline or Modbus system.

The transmitter has two universal inputs which can be individually configured as digital or analogue inputs (PT1000/Ni1000 sensor or 0…10 V).
The transmitter has one or two dual-chip sensor modules for general use with neutral gases. The sensors are connected to pressure and flow outputs. For pressure, the output unit is selectable in Pa, mmH2O, inH2O or mBar. For flow, the output unit is selectable in l/s, Ft3/min or m3/h. The units feature a pushbutton for zero-set calibration and factory reset.

Applications
The transmitter is especially well suited as a distributed I/O module for air handling unit controllers. It operates as a Modbus or EXOline slave that expands the controller with up to two analogue pressure and two universal inputs. You can choose whether flow or volume data will be sent. A single unit will usually cover half the measuring requirements of one typical air handling unit (fan, filter and two temperatures). Presigo PDT…C(-2) is designed for easy installation together with Regin's Corrigo or EXOcompact controllers.

Inside Presigo PDT…C(-2)
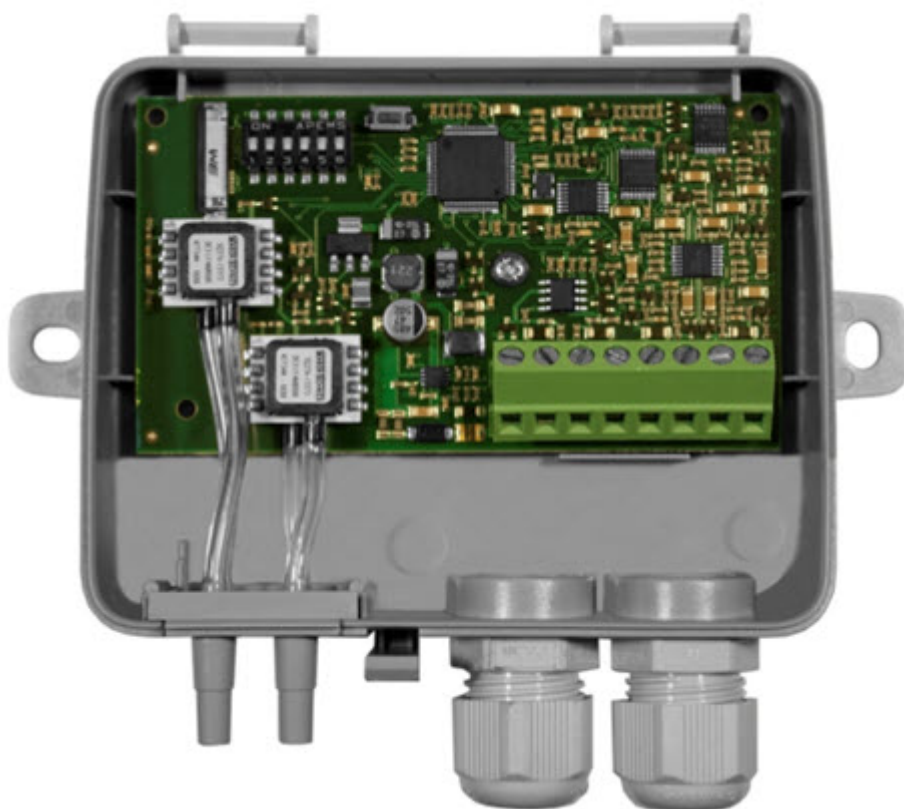
Figure 2-1

3 Information for the installer

3.1 Installation

(!) **Note!** Use a shielded, twisted pair cable for RS485 communication. At high risks of interference, a 120 Ω terminating resistor should be mounted at each end of the communications circuit.

1. Mount the transmitter horizontally or vertically on a stable, vibration-free surface. If the unit is installed in a humid environment, install it vertically with the cable gland edge of the unit pointing down to allow moisture to escape.

2. For wiring, see diagram in chapter *3.2 Wiring.* Connect the communication cable to terminals 3(B) and 4(A). Use the leftmost cable gland for supply voltage and communication. Use the rightmost cable gland for the universal inputs.

3. Set the DIP-switches to their desired settings. DIP-switch 6 can be used to offset the ELA address to allow setting up two units at the same time. The transmitter uses the address 1 as a default address for Modbus. For EXOline, dual sensor transmitters use 242:1 as default address and single sensor transmitters use 242:3 as their default address. .

4. Power up the unit. Refer to the variable tables in *Appendix C Units and variables* for information on how to access transmitter data.

5. Let the unit warm up for 10 minutes, then perform a zero-set calibration by pressing the push-button.

6. Connect plastic tubes from the ventilation duct to the pressure inlets.

(!) **Note!** A straight cut off nipple must be used for mounting in the ventilation duct.

For optimal measuring results, measuring points with turbulent air flow should be avoided. Preferably, measuring should be performed at a distance of two (2) duct diameters before bends and branching and at 6 duct diameters after bends and branching.

3.2 Wiring

1. G (+)

2. G0 (-)

3. RS485 EXOline/Modbus "B"

4. RS485 EXOline/Modbus "A"

5. UI1 Input

6. UI1 GND

7. UI2 Input

8. UI2 GND

Terminals 2, 6 and 8 are internally connected (GND/G0).

(!) **Note!** Note that the universal inputs can be individually configured for either PT1000/Ni1000, 0...10 V or digital input.
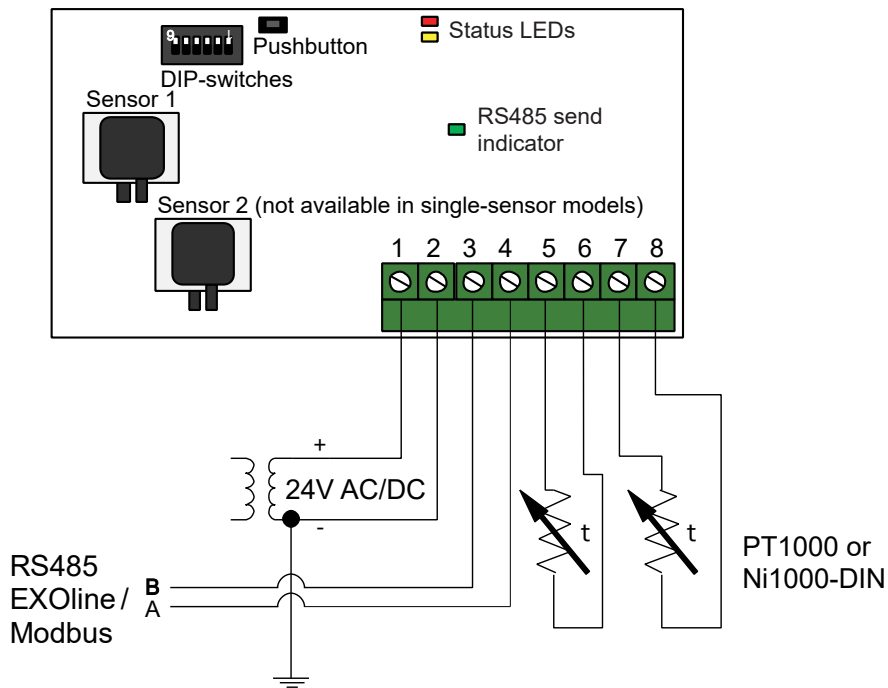
Figure 3-1 Wiring with UIx as temperature input
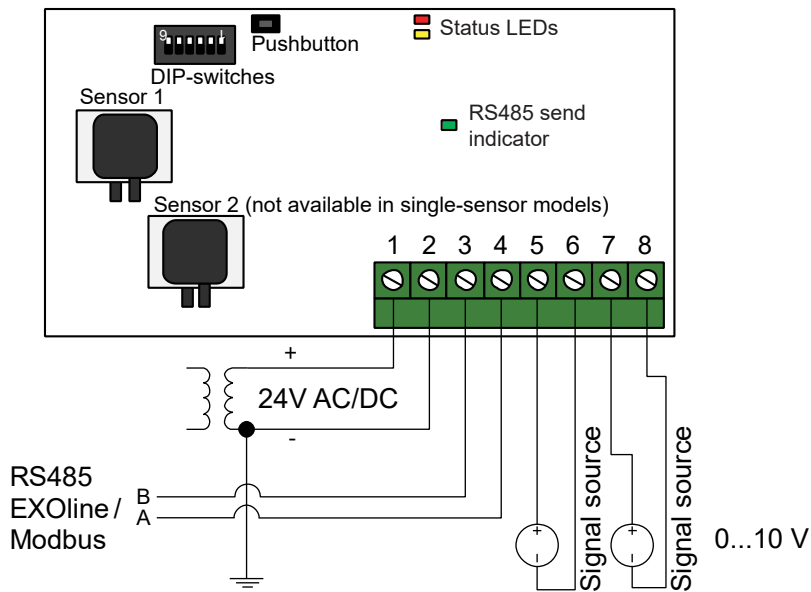
Figure 3-2 Wiring with UIx as 0...10 V input
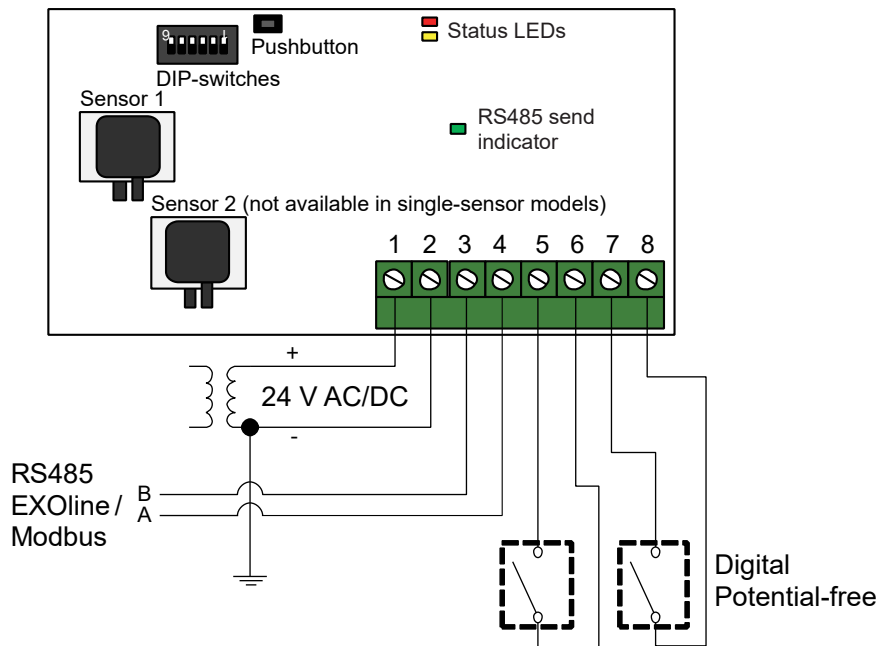
Figure 3-3 Wiring with UIx as digital input

The transmitter can be configured either by using the DIP-switches or via EXOline or Modbus. The last configuration entered into the transmitter is always valid, regardless of whether it was performed using the DIP-switches or via EXOline or Modbus.

4 Configuration via DIP switches

The transmitter features DIP-switches for setting up suitable communication parameters. These settings can later be overridden by commands sent via EXOline or Modbus.
If configuration is performed using the DIP-switches, the transmitter must then be powered down and powered up again for the parameters to change in accordance with the DIP-switch settings.

Upon delivery, all DIP-switches are set to the OFF position, which gives: EXOline protocol with 9600 baud, odd parity and no address offset added (see table 1 below).

Table 4-1

DIP-switch	Parameter	Key pattern	Parameter setting
1 and 2	Baud rate	**1 = OFF / 2 = OFF** 1 = ON / 2 = OFF 1 = OFF / 2 = ON 1 = ON / 2 = ON	**9600 bps** 14400 bps 19200 bps 38400 bps
3 and 4	Parity bit	**3 = OFF / 4 = OFF** 3 = ON / 4 = OFF 3 = OFF / 4 = ON 3 = ON / 4 = ON	**ODD parity** EVEN parity NO parity, ONE stop bit[1] NO parity, TWO stop bits[1]
5	EXOline or Modbus (selectable)	**OFF**	**EXOline**
		ON	Modbus
6	EXOline ELA address offset	**OFF**	**No offset added**
		ON	ELA = ELA + 1

1. When no parity is used, the Modbus standard is two stop bits.

Bold = Factory setting

5 Configuration as expansion units to Corrigo

When the transmitter is connected to Regin's Corrigo controller, it is configured as an expansion unit via the Corrigo display or by using *Application tool*. It will then appear as expansion unit(s) 3, 4, 5 or 6.

When used together with Corrigo, PDT...C(-2) should use the following EXOline address:

Table 5-1

Expansion unit in Corrigo	PLA	ELA
3	242	1
4	242	2
5	242	3
6	242	4

Models with two pressure sensors use PLA:ELA address 242:1 or 242:2 as their factory setting while models with one pressure sensor use address 242:3 or 242:4, depending on how DIP-switch 6 is set (see Table *4-1*). All DIP-switches are set to the off position at delivery. To change the address or any other communication settings in Table *4-1*, begin by first changing DIP-switch 6, disconnect the supply voltage from the device and then reconnect it again.

6 Configuration for Regin's freely programmable products

The addressing can be changed via EXOline or Modbus. Note: In this case, if the transmitter is powered down and powered up again, the address change will remain regardless of the position of DIP-switch 6.

7 Factory reset

If a factory reset is performed using the push-button, the DIP-switches should be restored to their factory setting (OFF), otherwise their settings will be read again.

> **Note!** All changes made with EXOline or Modbus will be reset if the push-button is pressed for 10 seconds or longer. All DIP-switch settings will then be read, including DIP-switch 6.

8 Push-button

Quick press: Zero-set pressure sensors.

> **Note!** Be sure to disconnect the pressure tubes before doing this.

The yellow LED will light up while the zeroing operation is in progress. Let the unit warm up for 10 minutes before attempting zero-set.

Long press (10 s): Reset software factory settings.

The red and yellow LEDs will flash alternating for the duration of the operation. The unit will then reset and restart.
If a factory reset is performed using the push-button, the DIP-switches should be restored to their factory setting (OFF), otherwise their settings will be read again.

9 Status LED

The red status LED will light up at power-on and go out after a few seconds when the on-board sensory circuitry is ready for operation. If the LED lights up during normal operation, an error has occurred. Read the global status variable via communication to determine the fault cause. See "Status variable" below.

If the yellow LED is blinking, it means the zero-set calibration has been performed incorrectly. In these cases, the transmitter will instead use the latest correctly performed calibration.

10   Status variable

The global status variable should be read via communication on a regular basis to detect any malfunctions in the transmitter.

Summary of implemented states:

Table 10-1

Value	Description
Bit 0	The unit is ready for use
Bit 1	Sensor type unknown
Bit 2	Internal (system) error
Bit 3	The calibration was lost
Bit 4	Universal input channel(s) parameter error. The unit will attempt to restart in five (5) seconds. It will not work until the mode register contains valid data.
Bit 5	Pressure input channel(s) parameter error. The unit will attempt to restart in five (5) seconds. It will not work until the mode register contains valid data.
Bit 6	Internal. Reserved for testing.
Bit 7	Internal. Reserved for testing.

11 Calculation of fan unit air flow using Presigo PDT…C(-2)

PDT…C(-2) can be set to calculate flow based on the calculated, measured flow from PS1 (AI1) and/or PS2 (AI2). In order to measure flow, it is necessary to first know the pressure drop across the fan, the density of the medium (air), as well as the K-factor of the fan.

K-factor
The ability of the fan to move air is specified by the K-factor. A large fan will displace more air than a small one.

Air density
The flow will also be affected by air density. The density will, in turn, be affected by air temperature.

Complete formula for flow calculation
The formula for flow calculation is:

$$Q_v = K * \sqrt{\frac{2}{\rho}} * \sqrt{\Delta P_m}$$

Figure 11-1

Compound K-factor (simplified)
The transmitter will always use the pressure value in Pascal for calculations, and it is important to always use that K-factor which results in m3/h. It is then possible to select the flow unit in which the results should be presented by setting QAnain.AIMode3 and QAnain.AIMode4 to the desired mode. Choose between displaying cubic meters per hour (m3/h), litres per second (l/s) or cubic feet per minute (Ft3/min) when reading the variables QAnain.AI3 and QAnain.AI4.

Simplified formula
The air density at 20°C is often used since changes in air density are small in a limited temperature range and you only want to take the pressure difference into account. This often results in an approximate value that is sufficient, since most air handling units operate near this temperature. The manufacturer of the air handling unit always states the K-factor of a specific unit, of which air density will frequently be a part. Specifications for the K-factor should always be stated. Some manufacturers leave the density out altogether and you will have to factorize K with the $\sqrt{(2/\rho)}$ expression yourself using a temperature of your choosing. If the K-factor already takes air density into account, this results in a simplified formula:

$$Q_v = K_{unit} * \sqrt{\Delta P_m}$$

Figure 11-2

Normally, the K-factor for a unit is given with different measuring units so it does not have to be recalculated for different resulting flow units such as: m3/h, l/s, Ft3/min, etc.

Appendix A Technical data

A.1 Product 1

A.1.1 General data

Table A-1

Supply voltage	24 V AC/DC ±15 %
Protection class	IP54
Calculated power consumption	2 VA (rms). Minimum transformer size 7.5 VA.
Data transmission channel	Non-isolated RS485 (max. 100 m)
Overall accuracy, pressure	≤ 1 % full scale
Annual deviation (typical) P1250 models	±2 Pa
P2500 models	±4 Pa
P7500 models	±20 Pa
Damping (settable)	1…12 s
K-factor (settable)	5…700
Operating temperature range	-25…+50°C
Operating humidity	Max. 95 % RH (non-condensing)
Overvoltage on any terminal	Max. ±18 V (referenced to GND)

A.1.2 Universal inputs UI1, UI2

Table A-2

Configured as	Ambient temperature	Accuracy	Range
PT1000 [1]	25...0°C	±1 K	40...+60°C alt. 40...140°F
	0...50°C	±0.5 K	
Ni1000; 6180 ppm/K	25...0°C	±1 K	40...+60°C alt. 40...140°F
	0...50°C	±0.5 K	
0...10 V	-	± 1 % full scale	-
Digital input	Potential-free contacts on/off (closed=on)	Potential-free contacts on/off (closed=on)	Potential-free contacts on/off (closed=on)

1. Factory setting

A.1.3 Pressure ranges (full scale)

Table A-3

Model		Pascal (factory setting)	mBar	mmH2O	inH2O
PDT12C	PS1	0…1250	0…12.5	0…125	0…5
PDT25C	PS1	0…2500	0…25	0…250	0…10
PDT75C	PS1	0…7500	0…75	0…750	0…30
PDT12C-2	PS1	0…1250	0…12.5	0…125	0…5
	PS2	0…1250	0…12.5	0…125	0…5
PDT12S25C-2	PS1	0…1250	0…12.5	0…125	0…5
	PS2	0…2500	0…25	0…250	0…10
PDT25C-2	PS1	0…2500	0…25	0…250	0…10
	PS2	0…2500	0…25	0…250	0…10

Table A-3 (continued)

Model		Pascal (factory setting)	mBar	mmH2O	inH2O
PDT12S75C-2	*PS1*	0…1250	0…12.5	0…125	0…5
	PS2	0…7500	0…75	0…750	0…30

> **Note!**
> The suffix in the name denotes the number of sensors in the unit.
> ✓ No suffix = One sensor (only PS1 is present, reading PS2 related parameters will yield a zero value reading)
> ✓ -2 = Two sensors
> The "S" in the name denotes split/different sensor ranges for PS1 and PS2.

A.1.4   Flow settings

The following flow ranges apply when selecting a unit of measurement for flow measurement:

Table A-4

Unit	Flow ranges (full scale)
l/s	0…31000
M3/h (factory setting)	0…65000
CFM [Ft3/min]	0…65000

Appendix B Input and output lists

The lists below are intended to be used as a memory aid during configuration, in order to help keep track of the desired input and output functions.

The left column contains a description of the in-/output signal, the middle column displays the name of the corresponding signal in and the right column shows the text displayed in the controller.

B.1   Universal inputs 1 & 2 mode selection

The universal inputs can be set to different modes:

Table B-1 Table 4

Value	Input type	Description	Unit range
0	None	-	-
1	PT1000 (factory setting)	Temperature – PT1000 input	-40…+60°C -40…+140°F
8	Ni1000	Temperature – Ni1000 input	-40…+60°C -40…+140°F
9	0…10 V	Voltage	0…10 V
6	Logic	Logic level – potential free input contacts	0/1

Appendix C Units and variables

C.1   Unit-of-measure (UOM) choices for pressure sensor 1 PDT12C

Table C-1 Table 5

Value	Unit	Description	Unit range
0	Pascal (factory setting)	Pascal	0…1250
1	mBar	Millibars	0…12.5
2	mmH2O	Millimeters of water	0…125
3	inH2O	Inches of water	0…5

C.2   Unit-of-measure (UOM) choices for pressure sensor 1 PDT25C

Table C-2 Table 6

Value	Unit	Description	Unit range
0	Pascal (factory setting)	Pascal	0…2500
1	mBar	Millibars	0…25
2	mmH2O	Millimeters of water	0…250
3	inH2O	Inches of water	0…10

C.3   Unit-of-measure (UOM) choices for pressure sensor 1 PDT75C

Table C-3 Table 7

Value	Unit	Description	Unit range
0	Pascal (factory setting)	Pascal	0…7500
1	mBar	Millibars	0…75
2	mmH2O	Millimeters of water	0…750
3	inH2O	Inches of water	0…30

C.4 Unit-of-measure (UOM) choices for pressure sensors 1 & 2 PDT12C-2

Table C-4 Table 8

Value	Unit	Description	Unit range, PS1	Unit range, PS2
0	Pascal (factory setting)	Pascal	0…1250	0…1250
1	mBar	Millibars	0…12.5	0…12.5
2	mmH2O	Millimeters of water	0…125	0…125
3	inH2O	Inches of water	0…5	0…5

C.5 Unit-of-measure (UOM) choices for pressure sensors 1 & 2 PDT12S25C-2

Table C-5 Table 9

Value	Unit	Description	Unit range, PS1	Unit range, PS2
0	Pascal (factory setting)	Pascal	0…1250	0…2500
1	mBar	Millibars	0…12.5	0…25
2	mmH2O	Millimeters of water	0…125	0…250
3	inH2O	Inches of water	0…5	0…10

C.6 Unit-of-measure (UOM) choices for pressure sensors 1 & 2 PDT25C-2

Table C-6 Table 10

Value	Unit	Description	Unit range, PS1	Unit range, PS2
0	Pascal (factory setting)	Pascal	0…2500	0…2500
1	mBar	Millibars	0…25	0…25
2	mmH2O	Millimeters of water	0…250	0…250
3	inH2O	Inches of water	0…10	0…10

C.7 Unit-of-measure (UOM) choices for pressure sensors 1 & 2 PDT12S75C-2

Table C-7 Table 11

Value	Unit	Description	Unit range, PS1	Unit range, PS2
0	Pascal (factory setting)	Pascal	0…1250	0…7500
1	mBar	Millibars	0…12.5	0…75
2	mmH2O	Millimeters of water	0…125	0…750
3	inH2O	Inches of water	0…5	0…30

C.8 Unit-of-measure (UOM) choices for flow sensors 1 & 2

Table C-8 Table 12

Value	Unit	Description	Unit range
0	m3/h (factory setting)	Cubic meters per hour	Floating point (depends on K-factor)
1	l/s	Liters per second	Floating point (depends on K-factor)
2	Ft3/min	Cubic feet per minute	Floating point (depends on K-factor)

Appendix D Modbus variables

D.1 Input registers (function 04, read-only)

Table D-1 Table 13

Reg	R/W	Description	Value	Scaling/Meaning
4x0000	R	Pressure sensor 1 reading. Most significant word of a 32-bit integer.	*See tables B-1...C-7*[1]	100
4x0001	R	Pressure sensor 1 reading. Least significant word of a 32-bit integer.		
4x0002	R	Pressure sensor 2 reading. Most significant word of a 32-bit integer.	*See tables B-1...C-7*[1]	100
4x0003	R	Pressure sensor 2 reading. Least significant word of a 32-bit integer.		
4x0004	R	Flow sensor 1 reading. Most significant word of a 32-bit integer.	*See table C-7*[1]	100
4x0005	R	Flow sensor 1 reading. Least significant word of a 32-bit integer.		
4x0006	R	Flow sensor 2 reading. Most significant word of a 32-bit integer.	*See table C-7*[1]	100
4x0007	R	Flow sensor 2 reading. Least significant word of a 32-bit integer.		
4x0008	R	Universal input 1 value. In °C in temperature mode, in Volts when 0…10 V mode.	-40…60°C 0…10 V	10
4x0009	R	Universal input 2 value. In °C in temperature mode, in Volts when 0…10 V mode.	-40…60°C 0…10 V	10
4x0010	R	Universal input 1 temperature in °Fahrenheit. Only valid in temperature mode.	-40…140°F	10
4x0011	R	Universal input 2 temperature in °Fahrenheit. Only valid in temperature mode.	-40…140°F	10
4x0012	R	Universal input 1 raw value	0…1500	
4x0013	R	Universal input 2 raw value	0…1500	
4x0014	R	Pressure sensor 1 raw value	0…30000	
4x0015	R	Pressure sensor 2 raw value	0…30000	
4x0016	R	Internal model number	1300…1399	
4x0017	R	Internal revision number	0…9999	
4x0018	R	Global device status	Bitfield	*See Table 10-1*

1. Model dependent

D.2 Discrete inputs (function 02, read-only)

Table D-2 Table 14

Reg	R/W	Description	Value	Scaling/Meaning
2x0000	R	Universal input 1 digital status (valid in digital mode only)	0/1	Open/Closed
2x0001	R	Universal input 2 digital status (valid in digital mode only)	0/1	Open/Closed

D.3 Holding registers (function 03)

Table D-3 Table 15

Reg	R/W	Description	Value	Scaling/Meaning
3x0000	R/W	Pressure sensor 1 mode (unit-of-measure)	*See tables B-1...C-7*	Index
3x0001	R/W	Pressure sensor 2 mode (unit-of-measure)	*See tables B-1...C-7*	Index
3x0002	R/W	Flow sensor 1 mode (unit-of-measure)	*See table C-7*	Index
3x0003	R/W	Flow sensor 2 mode (unit-of-measure)	*See table C-7*	Index
3x0004	R/W	Universal input 1 mode	*See table C-7*	Index
3x0005	R/W	Universal input 2 mode	*See table C-8*	Index
3x0006	R/W	Damping factor pressure sensor 1	1…120	10 (tenths of seconds)
3x0007	R/W	Damping factor pressure sensor 2	1…120	10 (tenths of seconds)
3x0008	R/W	K-factor for flow measurement, sensor 1	5…600	Unitless
3x0009	R/W	K-factor for flow measurement, sensor 2	5…600	Unitless
3x0010	R/W	RS485 port baud rate	See DPac description	Index[1]
3x0011	R/W	RS485 port mode/protocol	-	Index[2]
3x0012	R/W	RS485 port format	See DPac description	Index[1]
3x0013	R/W	Modbus unit ID	See DPac description	Index

1. Set via DIP-switch. Can be set to other values over the communication line (however this is not recommended and the procedure is outside the scope of this manual).
2. Do not alter externally! Set via DIP-switch.

D.4 Single coil (function 05)

Table D-4 Table 16

Reg	R/W	Description	Value	Scaling/Meaning
5x0000	W	Restart device	0->1	Do a warm boot
5x0001	W	Zero-set pressure sensors 1 & 2	0->1	Zero calibrate (same action as pushing button)

Appendix E EXOline variables

E.1   DPAC Qsystem, load number 241

Table E-1 Table 17

Variable name	Cell number	Variable type	Read/ Write	Variable description	Default value	Range/ Value	Value description
PLA	0	Index	R/W	PLA address	242	1-255	Byte
ELA	1	Index	R/W	ELA address	1 for dual sensor models, 3 for single sensor models	1-255	Byte
Ver_Minor	16	Index	R	Version (fractional part)	-	-	Fixed byte
Ver_Major	17	Index	R	Version (integer part)	-	-	Fixed byte
Model	36	Integer	R	Model of module	-	1301-1333	Integer
CPU_Speed	39	Index	R	CPU speed in MHz	16	16	Fixed byte
Ver_Branch	40	Index	R	Revision number (branch part)	-	-	Fixed byte
Ver_Number	41	Index	R	Revision number (number part)	-	-	Fixed byte
AsmModel	54	Integer	R	Application specific model	0	-	Number for identifying OEM variations
SerialNumber-String	60	String	R	Device serial number	-	-	01YYMMDDX-XXX
SVNVersion	80	Integer	R	SVN version of running firmvare	-	-	-
VendorName	109	String	R	Name of vendor	-	-	Name of vendor

E.2 DPAC Qanain, load number 201

Storage classes: RA = RAM Only, EE = RAM with EEPROM mirror, FL = FLASH Only

Table E-2 Table 18

Variable name	Cell number	Variable type	Storage class	Read/Write	Variable description	Default value	Range/ Value	Value description
AIMode1	1	Index	EE	R/W	Pressure mode for PSA sensor	0	0…3	*See tables B-1...C-7*
AIMode2	2	Index	EE	R/W	Pressure mode for PSB sensor	0	0…3	*See tables B-1...C-7*
AIMode3	3	Index	EE	R/W	Flow mode for PSA sensor	0	0…2	*See table C-7*
AIMode4	4	Index	EE	R/W	Flow mode for PSB sensor	0	0…2	*See table C-7*

Table E-2 Table 18 (continued)

Variable name	Cell number	Variable type	Storage class	Read/Write	Variable description	Default value	Range/ Value	Value description
AIMode5	5	Index	EE	R/W	Mode for UI1 input	1	0, 1, 6, 8, 9	*See table C-8*
AIMode6	6	Index	EE	R/W	Mode for UI2 input	1	0, 1, 6, 8, 9	*See table C-8*
AI1	18	Real	RA	R	Pressure value for PSA sensor	–	Varies with AIMode1 setting	Floating point value
AI2	21	Real	RA	R	Pressure value for PSB sensor	-	Varies with AIMode2 setting	Floating point value
AI3	24	Real	RA	R	Flow value for PSA sensor	-	Varies with AIMode3 setting	Floating point value
AI4	27	Real	RA	R	Flow value for PSB sensor	-	Varies with AIMode4 setting	Floating point value
AI5	30	Real	RA	R	Value for UI1	-	Varies with AIMode5 setting	Floating point value
AI6	33	Real	RA	R	Value for UI2	-	Varies with AIMode6 setting	Floating point value

E.3   DPAC PresigoDPac, load number 3

Table E-3 Table 19

Variable name	Cell number	Variable type	Storage class	Read/ Write	Variable description	Default value	Range/ Value	Value description
Device_ Status	0	Index	RA	R	Global device status as a bitfield	-	Bit 0…5	
DI1	1	Logic	RA	R	Digital input	-	0/1	
DI2	2	Logic	RA	R	Digital input	-	0/1	
Flow_K_ Factor_PSA	10	Integer	EE	R/W	K-factor setting for flow	5	5…700	
Flow_K_ Factor_PSB	12	Integer	EE	R/W	K-factor setting for flow	5	5…700	
Pressure_ Damp-Factor_PSA	14	Integer	EE	R/W	Damping factor	10	10…120	
Pressure_ Damp-Factor_PSB	16	Integer	EE	R/W	Damping factor	10	10…120	
Mode_Port_1	20	Index	EE	R/W	Serial port mode	DIP SW	2 15	

Table E-3 Table 19 (continued)

Variable name	Cell number	Variable type	Storage class	Read/ Write	Variable description	Default value	Range/ Value	Value description
Format_ Port_1	21	Index	EE	R/W	Serial port data format	DIP SW	16 48 112	8 bit data, no parity, 1 stop bit 8 bit data, even parity, 1 stop bit 1 stop bit 8 bit data, odd parity, 1 stop bit 1 stop bit
Baud_Port_1	22	Index	EE	R/W	Serial port bit rate	DIP SW	0 2 15 17	9600 Baud 2400 Baud 19200 Baud 38400 Baud
Extra_ TimeOut_ Port_1	23	Index	EE	R/W	Extra character timeout for port #1	0		(Unit: 4 ms)
ModbusU-nitID	30	Index	EE	R/W	Modbus unit identification	1	1-247	Modbus address
Modbu-sCharTi-meout_Port_ 1	31	Integer	EE	R/W	Modbus character timeout (ms)	3	-	Integer constant (1.5 x character speed)
ModbusAns-werDelay_ Port_1	33	Integer	EE	R/W	Modbus answer delay (ms)	5	-	Integer constant (3.5 x character speed)
Nixus_ WarmBoot	40	Logic	RA	W	Logic for commanding warm boot	-	1	Triggers warm boot
Nixus_ ZeroPSOffset	41	Logic	RA	W	Logic for commanding pressure sensor zeroing	-	1	Triggers zero offset of pres-sure sensors
NixusUI1_ Deg_F	50	Real	RA	R	Temperature for UI1 in Fahrenheit	-	-40…+140	°F
NixusUI2_ Deg_F	53	Real	RA	R	Temperature for UI2 in Fahrenheit	-	-40…+140	°F
NixusUI1_ Raw	56	Real	RA	R	Raw value for UI1	-	Mode dependent	Unfiltered value used by ATE. Ranges from -10…+1500 depending on mode
NixusUI1_ Raw	59	Real	RA	R	Raw value for UI2	-	Mode dependent	Unfiltered value used by ATE. Ranges from -10…+1500 depending on mode
NixusPSA_ Raw	62	Real	RA	R	Raw value for pressure sensor A	-	0…32767	Unfiltered unitless pres-sure value

Table E-3 Table 19 (continued)

Variable name	Cell number	Variable type	Storage class	Read/ Write	Variable description	Default value	Range/ Value	Value description
NixusPSB_ Raw	65	Real	RA	R	Raw value for pressure sensor B	-	0…32767	Unfiltered unitless pressure value
NixusPSA_ Offset	68	Real	EE	R/W	User offset calibration value PSA	0	< 0	Always negative when valid
NixusPSB_ Offset	71	Real	EE	R/W	User offset calibration value PSB	0	< 0	Always negative when valid