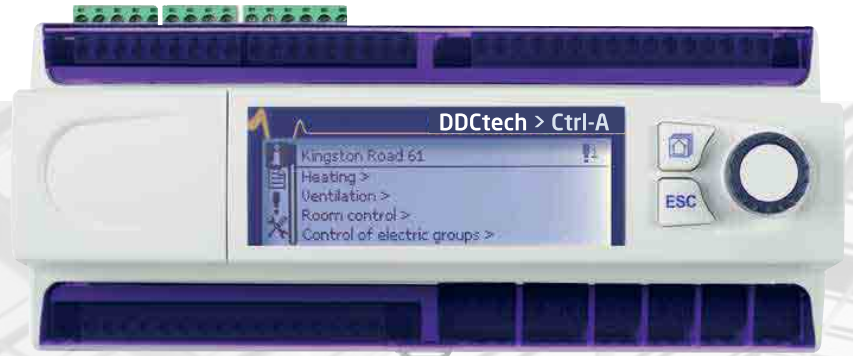
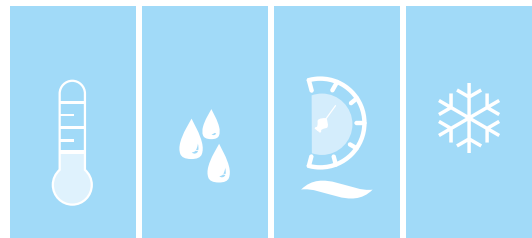


# DDCtech<sup>®</sup> building technology

## Free Programmable Control Units

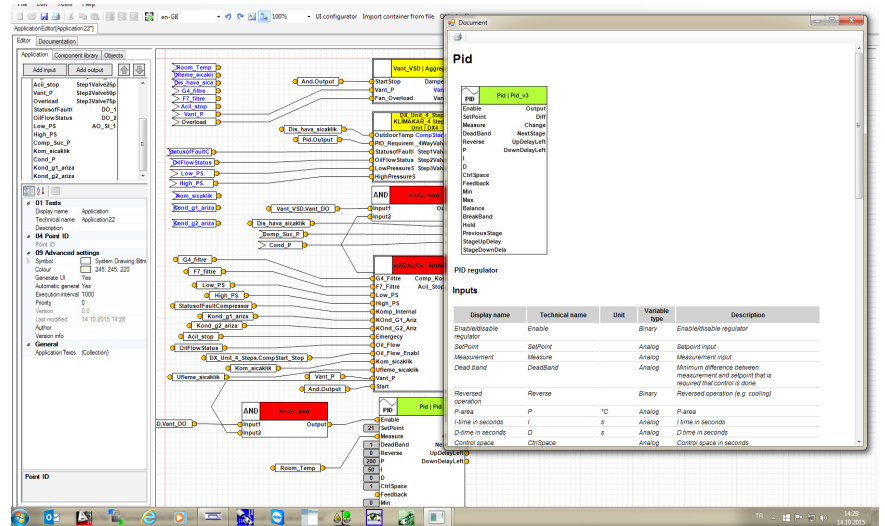


Sensors

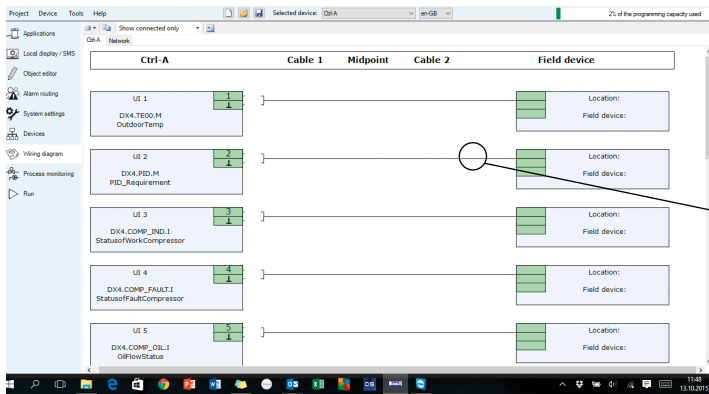


## DDC tech Programming Tool

- English, Finnish, German, Russian, Turkish language
- Accuracy check application with simulation
- Extensive library
- Freely programmable
- Creating wiring and devices list
- Automatic create Modbus Register code list
- Tested Windows XP , Vista and Windows 7...10 operating systems
- Ability to use on multiple computers with a single license

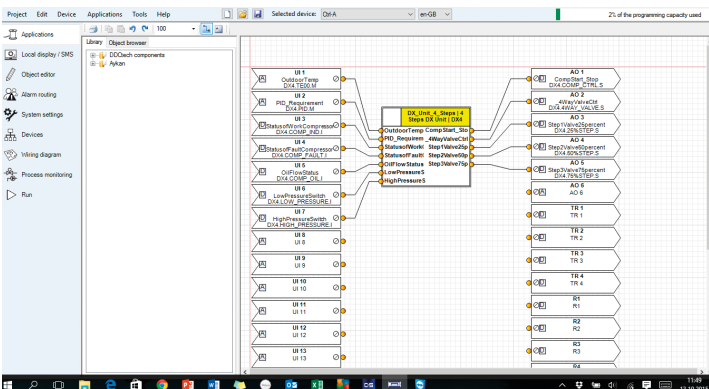


• Programming page

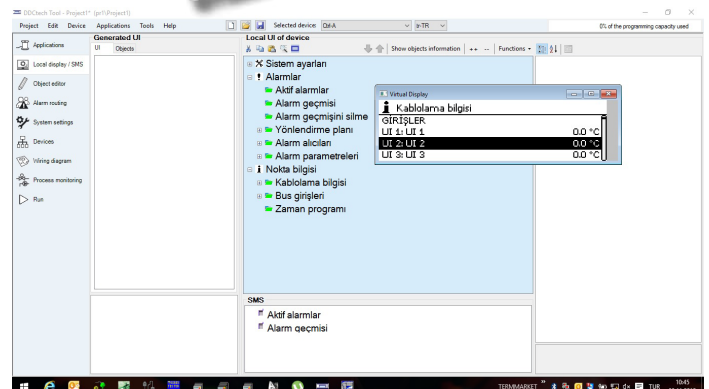


Cabling and field equipment list  
Creating page

Cable type selection



• Physical connection preparation page



Display Design

## Ctrl - A

- Using ready library and freely programmable
- Access to the device over the internet with access link making changes in programming, trending with measurement values
- DDC net access and set with browser and html feature can change values
- Peer to Peer communication
- Being a gateway to BMS
- 16 MB memory
- Additional module connectivity up to 200 physical points
- Heat pumps Cascad application
- Large Library
- On-screen access and modification of physical inputs and outputs Application
- English, German, Russian, Finnish, Turkish language options

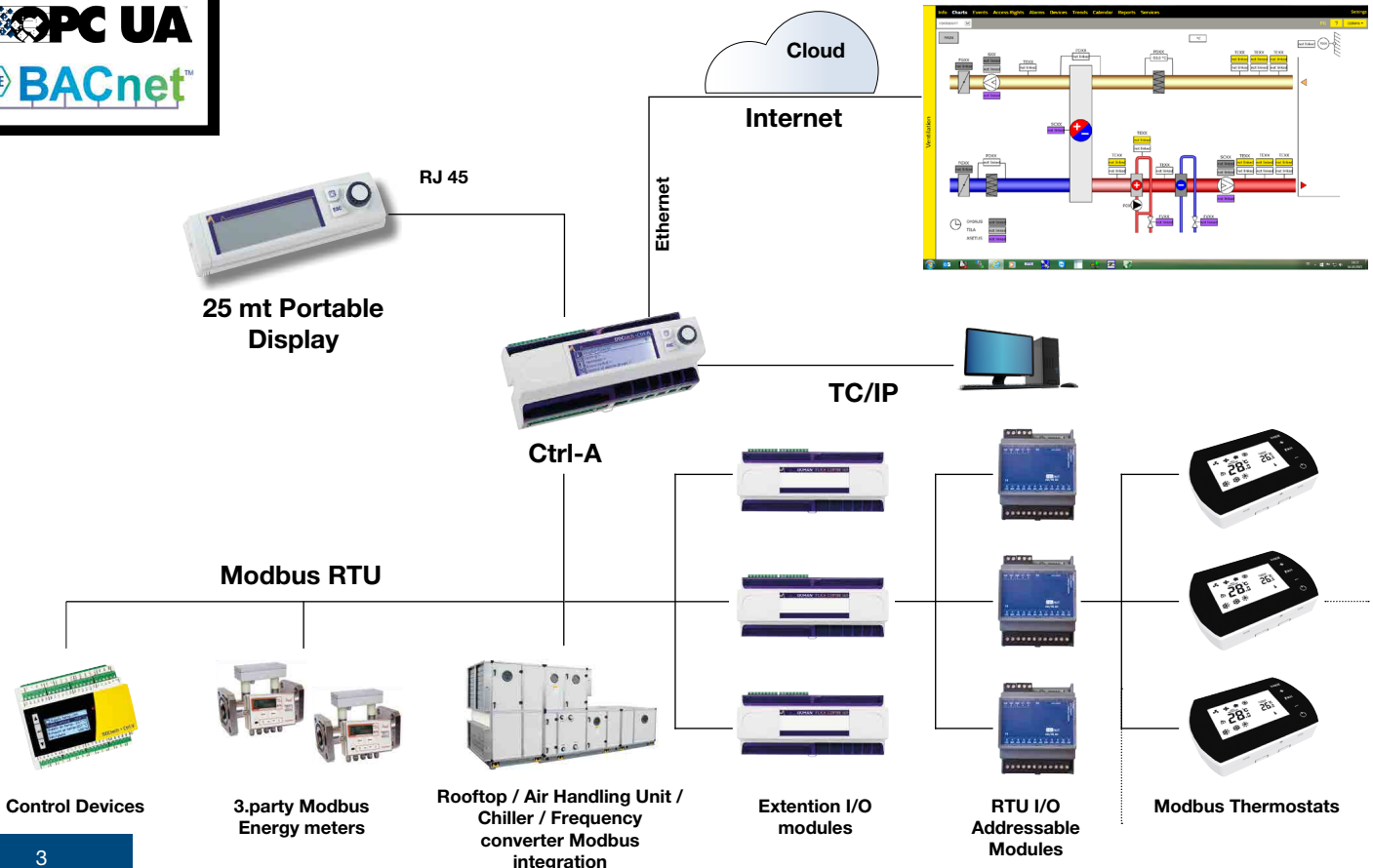


1.520 €

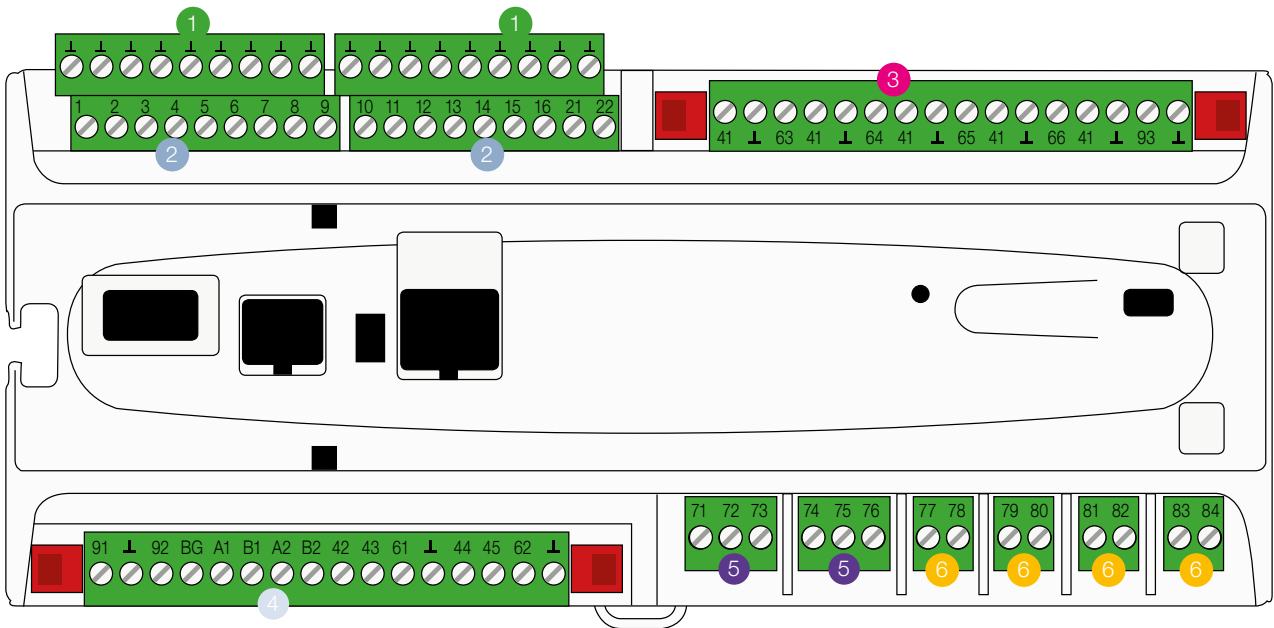
Power supply		24 VAC , 50 Hz ( 22 VAC...33 VAC ) , 30 VA
Protection class		IP20
Operating / Storing temperature		0°C ..... +40 °C / -20°C...+70°C
UI / Universal inputs : 16	inputs 1...16	NTC10k , LG-Ni1000 , Pt1000 , transmitter DC 0...10V , dry contact inputs
	inputs 13...16	Pulse inputs
DI / Digital inputs : 2	inputs 21...22	Pulse inputs , dry contact inputs
AO / Analog outputs : 6	outputs 61...66	DC 0...10 V , current max 10 mA
DO / Digital (Relay) outputs : 6	outputs 71...76	2 Changeover relay , NO / C / NC , 230 VAC max 6 A
	outputs 77...84	4 Normally relay , NO , 230 VAC max 6 A
TrO / Triac outputs : 4	outputs 42...45	24 VAC , max 1A
Operating outputs : 5	outputs 41	24 VAC , max 1A
Data transfer : 4	A1...B1 / A2...B2	Master - Modbus RTU-1 , RS485 / Modbus RTU-2 , RS485
	Ethernet	Slave - TCP / IP
	USB host	Gsm modem , RS232
Display : 1	Rj45	Plug-in or max 25 mt remote connection

**VERY FUTURE VERSIONS**

OPC-UA SERVER	VERSION 3.0.0
BACNET SERVER	VERSION 3.0.0

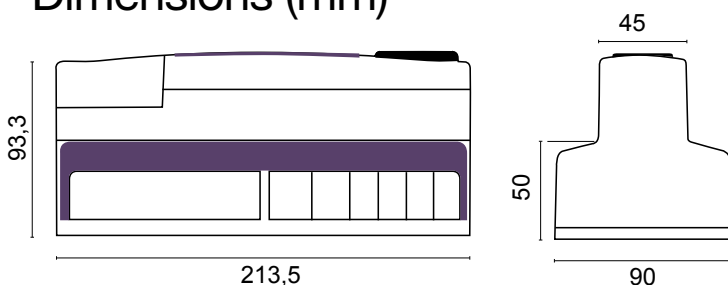


# Ctrl - A



- 1** Detachable strip connectors (measurements' ground)  
Connector labels  
┴...┴ Measurements' ground (16pcs)
- 2** Detachable strip connectors (universal measurement, digital and pulse counter inputs)  
Connector markings:  
1...12 Universal input  
13...16 Universal input, pulse counter input  
21...22 Digital input, pulse counter input
- 3** Detachable strip connector (operation voltage and outputs)  
Connector markings:  
41 24 Vac operating voltage output  
┴ GND  
63 0...10 V output  
41 24 Vac operating voltage output  
┴ GND  
64 0...10 V output  
41 24 Vac operating voltage output  
┴ GND  
65 0...10 V output  
41 24 Vac operating voltage output  
┴ GND  
66 0...10 V output  
41 24 Vac operating voltage output  
┴ GND  
93 15 Vdc operating voltage output  
┴ GND
- 4** Detachable strip connectors (power supply, battery backup, RS-485 bus connections, outputs)  
Connector markings:  
91 24 Vac power supply  
┴ GND  
92 12 Vdc backup voltage input  
BG RS-485 bus isolated ground  
A1 and B1 RS-485 bus connection  
A2 and B2 RS-485 bus connection  
42 and 43 24 Vac output (Triac or continuous 24 Vac)  
61 0...10 V output  
┴ GND  
44 and 45 24 Vac output (Triac or continuous 24 Vac)  
62 0...10 V output  
┴ GND
- 5** Detachable strip connectors (Change-over contact relays max 230 Vac, 6 A)  
Connector markings:  
71 Relay 1 NO  
72 Relay 1 C  
73 Relay 1 NC  
74 Relay 2 NO  
75 Relay 2 C  
76 Relay 2 NC
- 6** Detachable strip connectors (relays with normally open contact max 230 Vac, 6 A)  
Connector markings:  
77 Relay 3 NO  
78 Relay 3 C  
79 Relay 4 NO  
80 Relay 4 C  
81 Relay 5 NO  
82 Relay 5 C  
83 Relay 6 NO  
84 Relay 6 C

## Dimensions (mm)



Notes: I/O extension can be connected to the DDCtech device with RTU- 2/3

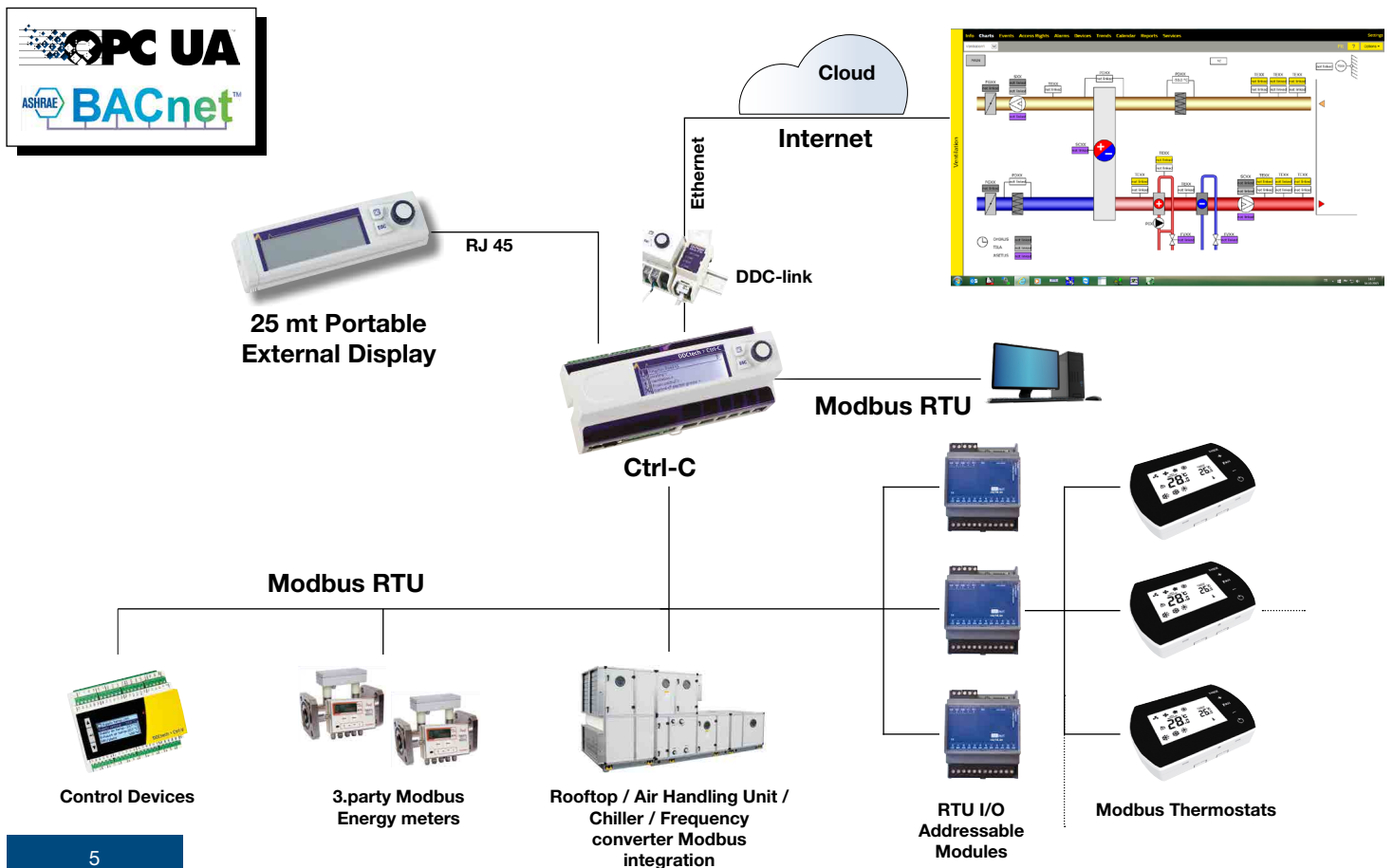
## Ctrl - C

- Using ready library and freely programmable
- DDC Link to access the device via internet and connecting to DDC net cloud.
- DDC net access and set values with browser and html feature change trend tracking feature
- 2 GB memory
- Programing with SD card
- Large Library
- English, German, Russian, Finnish, Turkish language options



1.085 €

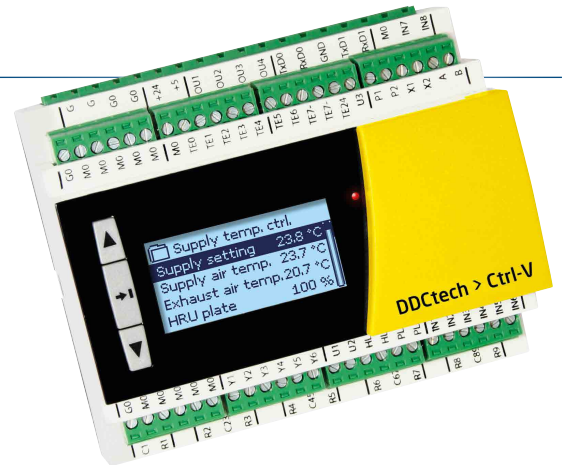
Power supply		230 VAC , 50 Hz
Protection class		IP20
Operating / Storing temperature		0°C ..... +50 °C / -20°C...+70°C
UI / Universal inputs : 16	inputs 1...16	NTC10k , LG-Ni1000 , Pt1000 , transmitter DC 0...10V , dry contact inputs
	inputs 12...15	0(4)...20 mA input option
	input 16	Pulse input option
DI / Digital inputs : 2	inputs 17...18	Pulse inputs , dry contact inputs
AO / Analog outputs : 6	outputs 27-30-43-46-49-50	DC 0...10 V , current max 10 mA
DO / Digital (Relay) outputs : 6	outputs 71...76	2 Changeover relay , NO / C / NC , 230 VAC max 6 A
TrO / Triac outputs : 4	outputs 24-25-77...80	24 VAC , max 1A
Data transfer : 1	A1...B1	Master or Slave - Modbus RTU , RS485
	With DDC-Link	TCP / IP
Display : 1	Rj45	Plug-in or max 25 mt remote connection
<b>FUTURE VERSIONS</b>		
OPC-UA SERVER		DDC link 2.0
BACNET SERVER		DDC link 2.0





## Ctrl - V

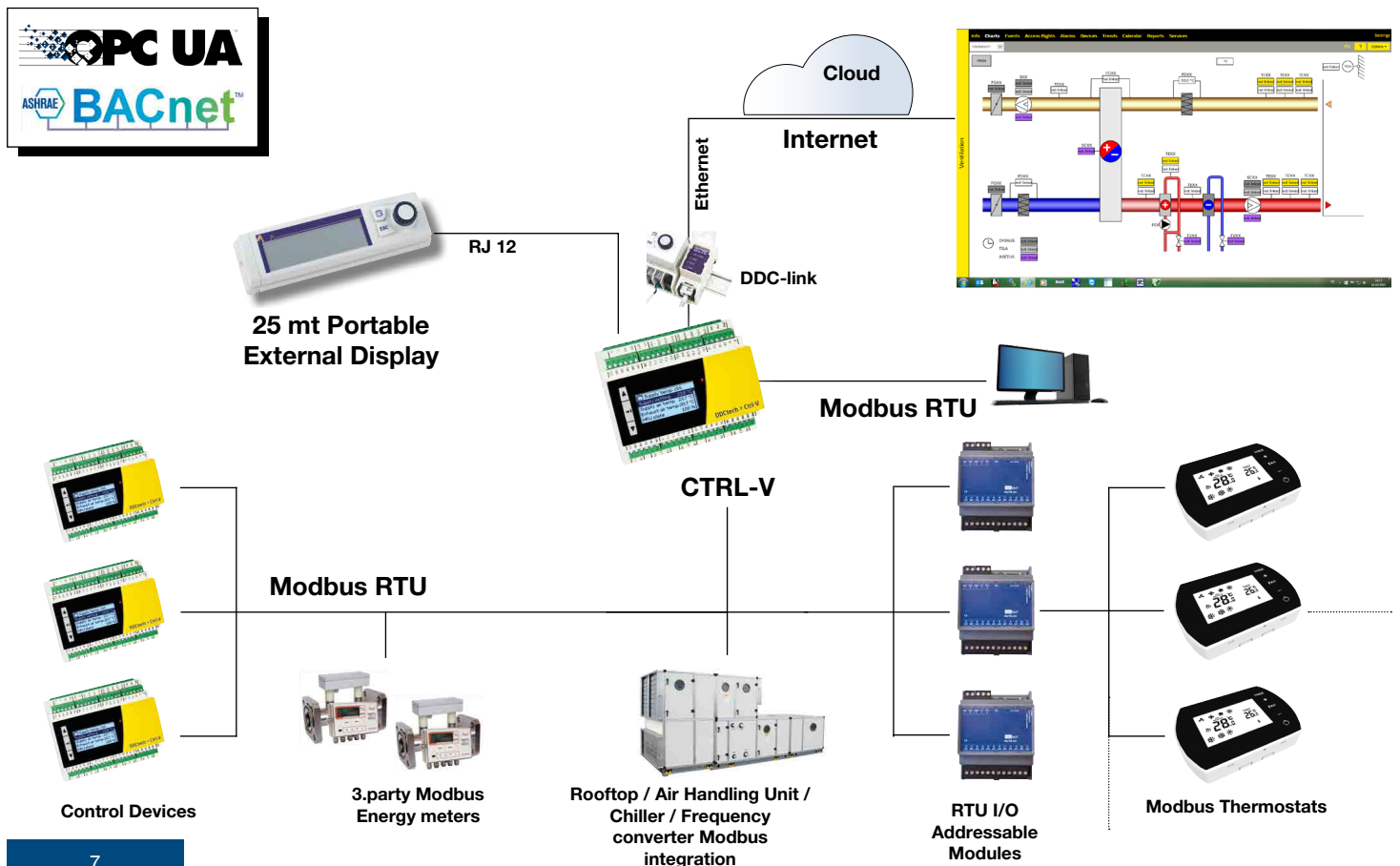
- Using ready library and freely programmable
- DDC Link to access the device via internet and connecting to DDC net cloud.
- DDC net access and set values with browser and html feature  
change trend tracking feature
- 2 GB memory
- Programing with SD card
- Large Library
- English, German, Russian, Finnish, Turkish language options



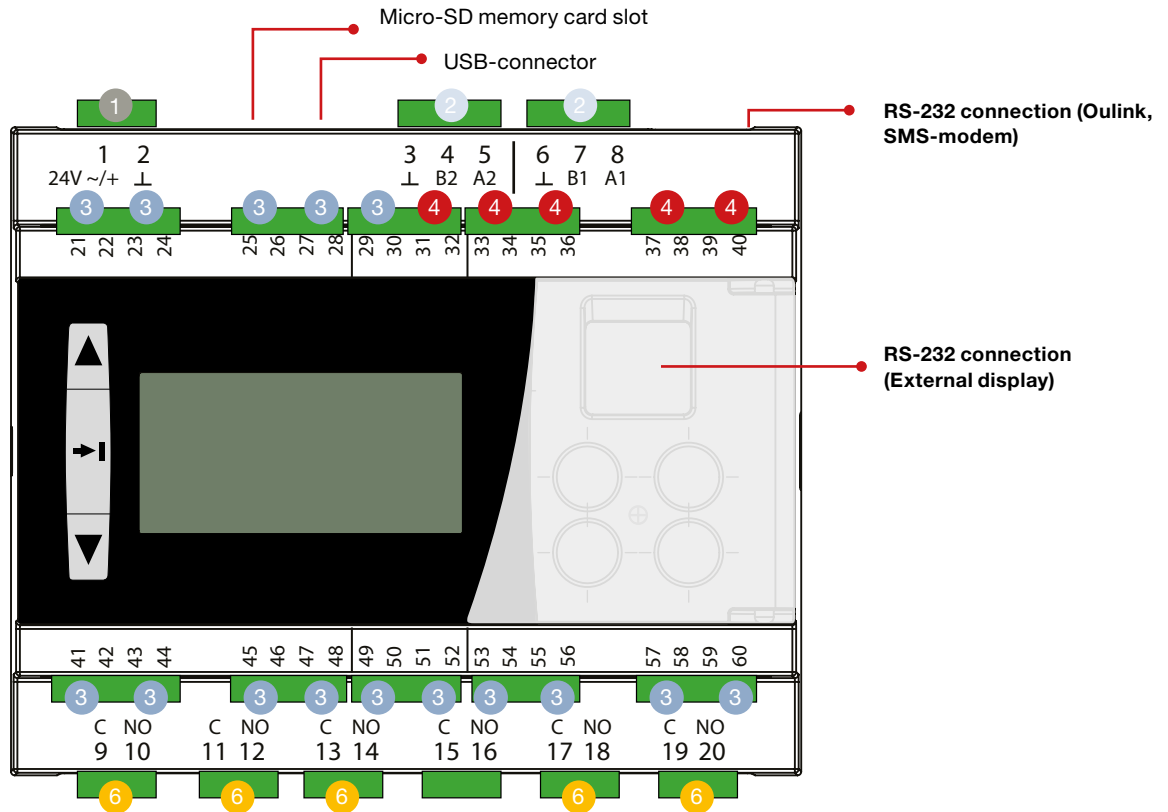
510 €

Power supply		24 VAC or 24 VDC
Protection class		IP20
Operating / Storing temperature		0°C ..... +40 °C / -20°C...+70°C
UI / Universal inputs : 15	inputs 1...15	NTC10k , LG-Ni1000 , Pt1000 , dry contact inputs
	inputs 11...15	Transmitter DC 0...10V
AO / Analog outputs : 4	outputs 31-33-35-37	DC 0...10 V , current max 10 mA
DO / Digital (Relay ) outputs : 6	outputs 9...20	6 Normally relay , NO , 230 VAC max 6 A
Data transfer : 4	A1...B1 / A2...B2	Master or Slave - Modbus RTU-1 , RS485 / Modbus RTU-2 , RS485
	With DDC-Link	TCP / IP
Display : 1	Rj12	One fixed and one remote connection max 25 mt

FUTURE VERSIONS		
OPC-UA SERVER		DDC link 2.0
BACNET SERVER		DDC link 2.0



## Ctrl - V



- 1** Detachable strip connectors (operation voltage).  
Connector labels:  
1 24 Vac operation voltage output  
2  $\perp$  GND

- 2** Detachable strip connectors (RS-485-bus connectors)  
Connector labels:  
3  $\perp$  GND  
4 RS-485-bus connection B2  
5 RS-485-bus connection A2  
6  $\perp$  GND  
7 RS-485-bus connection B1  
8 RS-485-bus connection A1

- 3** Detachable strip connectors (universal measurement and digital inputs).

21	M1
22	$\perp$ GND
23	M2
24	$\perp$ GND
25	M3
26	$\perp$ GND
27	M4
28	$\perp$ GND
29	M5
30	$\perp$ GND
41	M6
42	$\perp$ GND
43	M7
44	$\perp$ GND
45	M8
46	$\perp$ GND
47	M9
48	$\perp$ GND
49	M10
50	$\perp$ GND
51	M11
52	$\perp$ GND
53	M12
54	$\perp$ GND
55	M13
56	$\perp$ GND
57	M14
58	$\perp$ GND
59	M15
60	$\perp$ GND

- 4** Detachable strip connectors (analog outputs and PWM).  
Connector labels:

31	0...10 V output (Y4)
32	$\perp$ GND
33	0...10 V output (Y3)
34	$\perp$ GND
35	0...10 V output (Y2)
36	$\perp$ GND
37	0...10 V output (Y1)
38	$\perp$ GND
39	PWM
40	$\perp$ GND

- 6** Detachable strip connectors (relays with normally open contact max 230 Vac, 5 A).  
Connector labels:

9	Relay 1 C
10	Relay 1 NO
11	Relay 2 C
12	Relay 2 NO
13	Relay 3 C
14	Relay 3 NO
15	Relay 4 C
16	Relay 4 NO
17	Relay 5 C
18	Relay 5 NO
19	Relay 6 C
20	Relay 6 NO



## Ctrl - E16DI

RS 485 - RTU MODBUS  
16 DI

1

		For activation of digital inputs use 24V AC/DC																									
		GND	24V AC/DC	COM for DIs																							
DI No. 1-8				1	2	3	4	5	6	7	8																
Terminal:				11	12	13	14	15	16	17	18																
DI No. 9-16				9	10	11	12	13	14	15	16																
Terminal:				19	20	21	22	23	24	25	26																
COM for DIs																											
Terminal:				10	27																						
Power supply																											
Terminal:		1	2																								



255 €

## Ctrl - E8DO-R

RS 485 - RTU MODBUS  
8 DO-R

1

		Output voltages of DOs are potential-free (two groups)																									
		GND	24V AC/DC	COM DO 1..4				COM DO 5..8																			
DO No. 1-8				1	2	3	4	5	6	7	8																
Terminal:				11	12	13	14	15	16	17	18																
COM for DOs																											
Terminal:				10	19																						
Power supply																											
Terminal:		1	2																								



242 €

## Ctrl - E8AI

RS 485 - RTU MODBUS  
8 AI

1

		AIs for active sensors 0..10 V and various types of RTD sensors																									
		GND	24V AC/DC	GND for AIs																							
AI No. 1-8				1	2	3	4	5	6	7	8																
Terminal:				10	12	13	15	16	18	19	21																
GND for AIs																											
Terminal:				11	14	17	20																				
Power supply																											
Terminal:		1	2																								



301 €

## Ctrl - E8AO

RS 485 - RTU MODBUS  
8 AO

1

		Output voltage AOs 0..10 V DC																									
		GND	24V AC/DC	GND for AOs																							
AO No. 1-8				1	2	3	4	5	6	7	8																
Terminal:				10	12	13	15	16	18	19	21																
GND for AOs																											
Terminal:				11	14	17	20																				
Power supply																											
Terminal:		1	2																								



313 €

## Ctrl - E32

Power supply		24 VAC, 50 Hz ( -10%...+25% )
Protection class		IP20
Operating / Storing temperature		0°C ..... +40°C / -20°C...+70°C
UI / Universal inputs: 16	inputs 1...16	NTC10k, Ni1000, Pt1000, transmitter DC 0...10V, dry contact inputs
	inputs 13...16	Pulse inputs
AO / Analog outputs: 6	outputs 61...66	DC 0...10 V, current max 10 mA
DO / Digital (Relay ) outputs: 6	outputs 71...76	2 Changeover relay, NO / C / NC , 230 VAC max 6 A
	outputs 77...84	4 Normally relay, NO, 230 VAC max 6 A
TrO / Triac outputs: 4	outputs 42...45	24 VAC, max 1A



620 €

## Ctrl - E21

Power supply		24 VAC, 50 Hz ( -10%...+25% )
Protection class		IP20
Operating / Storing temperature		0°C ..... +40°C / -20°C...+70°C
UI / Universal inputs: 9	inputs 1...9	NTC10k, Ni1000, Pt1000 , transmitter DC 0...10V, dry contact inputs
	AO / Analog outputs: 2	outputs 61...62
AO / Analog outputs: 2	outputs 61...62	DC 0...10 V, current max 10 mA
DO / Digital (Relay ) outputs: 6	outputs 71...76	2 Changeover relay, NO / C / NC , 230 VAC max 6 A
	outputs 77...84	4 Normally relay, NO, 230 VAC max 6 A
TrO / Triac outputs : 4	outputs 42...45	24 VAC , max 1A



580 €

## Ctrl - E16

Power supply		24 VAC, 50 Hz ( -10%...+25% )
Protection class		IP20
Operating / Storing temperature		0°C ..... +40°C / -20°C...+70°C
UI / Universal inputs: 16	inputs 1...16	NTC10k, Ni1000, Pt1000 , transmitter DC 0...10V, dry contact inputs
	inputs 13...16	Pulse inputs



415 €

## Web-based Graphical Interface - Support for up to 2000 tree nodes graphics - trends

### Easy to Use

- 100% browser based
- Drag and drop setup
- No HTML required

### Powerful

- 2 simultaneous protocols
- 24/7 reliability
- Linux security

### Cost Effective

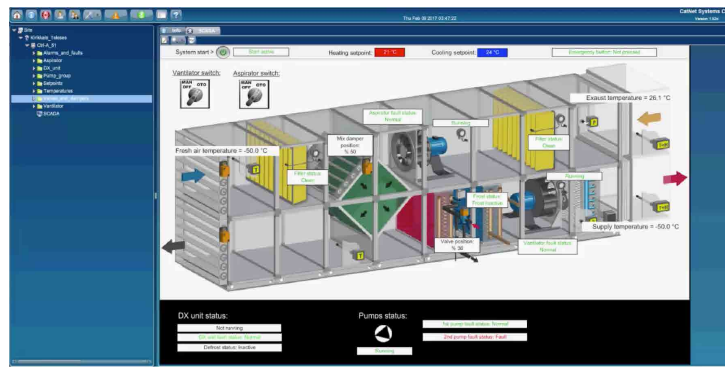
- NO licensing fees
- NO per-point charges
- NO certification classes
- NO special software
- NO PC required on site

### Multiple Uses

- HMI/User interface
- Scheduler
- Alarm monitor
- Runtime accumulator
- Trend collector
- Simple logic controller
- Point translator system
- Many other uses



2.625 €



DDCview Scada

## Fancoil Thermostats



### Product Code : FCT24

DDCtech FCT24 Fan coil Thermostat  
Digital Display  
Output for 2 and 4 Tube Systems: on-off  
Auto-Manual Summer Passage  
3 Speed Steps  
White, Black color options.

80 €

### Product Code : FCT24M

DDCtech FCT24M Fan coil Thermostat  
Digital Display  
For 2 and 4 Tube Systems Output: 0 ... 10V  
Auto-Manual Summer Passage  
3 Speed Steps  
White, Black color options.

112 €

## Modbus Communication Fan Coil Thermostats

### Product Code : FCT24 Modbus

Modbus Communication  
Modbus ID setting: 1 ~ 247 (01 ~ F7)  
Digital Display  
For 2 and 4 Tube Systems Output: On-Off  
3 Speed Steps  
Auto-Manual Summer Passage  
White, Black color options

85 €

### Product Code : FCT24M Modbus

Modbus Communication  
Modbus ID setting: 1 ~ 247 (01 ~ F7),  
Digital Display  
For 2 and 4 Tube Systems Output: 0 ... 10 V  
3 Speed Range  
Auto-Manual Summer Winter Pass  
White, Black color options.

125 €

### Product Code : FCT32 Modbus

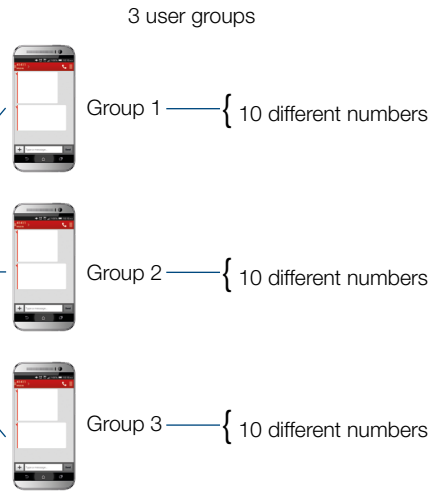
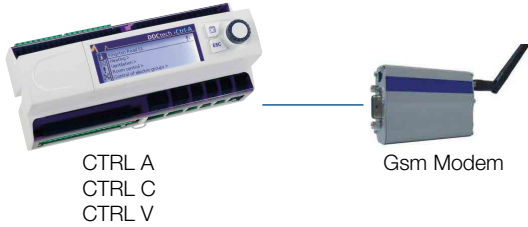
10 Modbus Thermostats can be connected.  
Modbus Communication  
Modbus ID setting: 1 ~ 247 (01 ~ F7),  
Digital Display  
For 2 and 4 Tube Systems  
3 Speed Speed  
Auto-Manual Summer Winter Pass  
White, Black color options.

440 €

# Remote Access

- Gsm modem

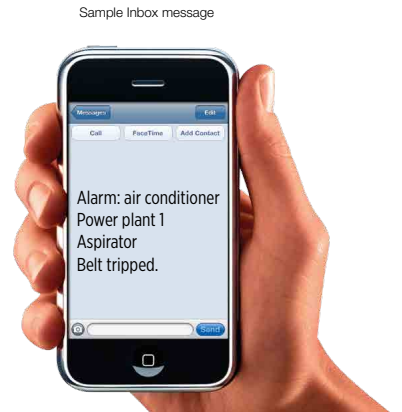
- Total under 3 groups  
30 different numbers



- Information sms



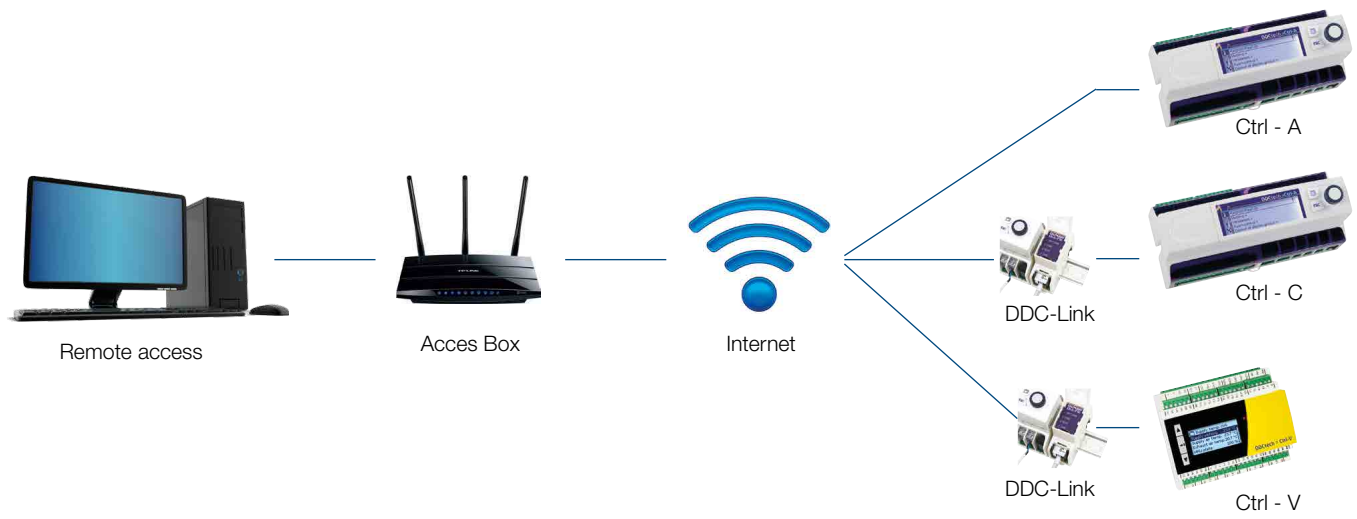
- Instant alarm notification with sms



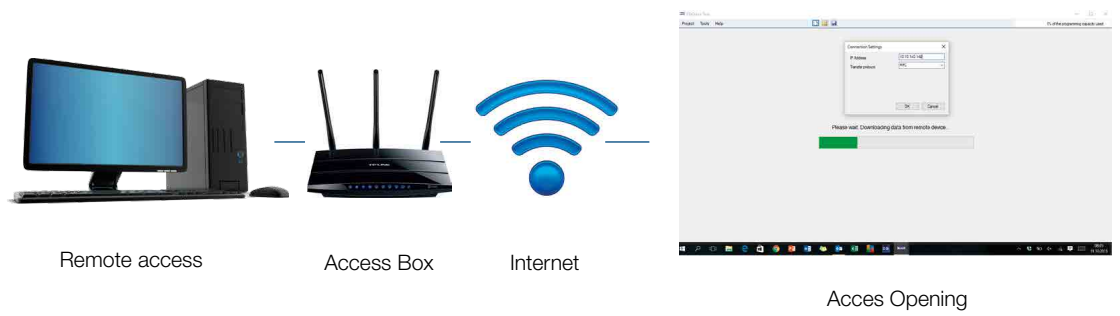
- Changing set value with sms



## Direct connection to control devices over the Internet



## Access to controller programming, monitoring, parameter setting



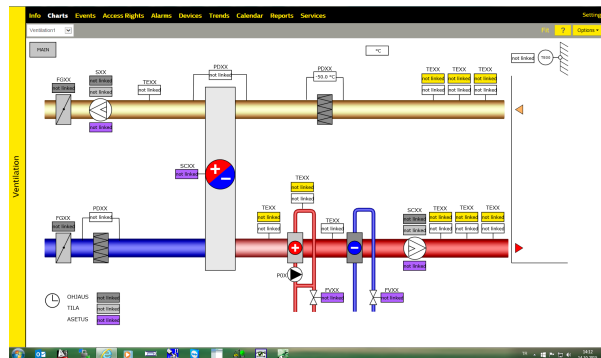
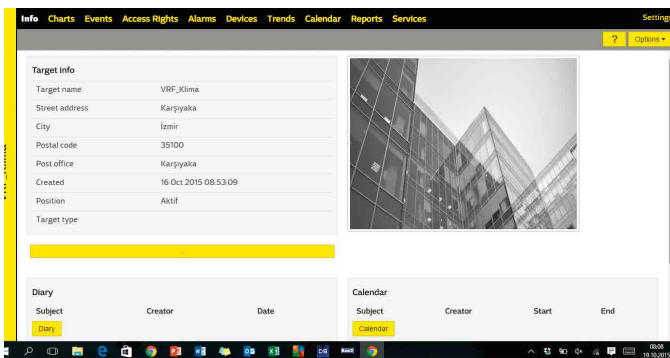
## Internet access DDC Net



- Access to the browser on any computer



- DDC Net Cloud Screen Monitoring



- DDC Net Cloud Graphic Monitoring
- Scada
- Monitoring
- Control
- Set Value Setting

## Temperature Sensors

### Outside Air Temperature Sensors

Measurement Range : -50°C ... +100°C  
 Case : PA6 15% GK, Color RAL 9010  
 Case Dimensions : 65 x 60 x 38 mm  
 Protection Class : IP65



Code	Description	Price (€)
OTT-A-PT100	PT100	22
OTT-A-PT1000	PT1000	22
OTT-A-Ni1000	Ni1000	26
OTT-A-NTC ....	NTC 5k, 10k, 20k	18
OTT-A-NTC1,8	NTC 1,8 kOhm	22
OTT-A-10	Active, 0...10V	148
OTT-A-20	Active, 4-20mA	148

### Room Type Temperature Sensors

Measurement Range : -35°C .... +70°C  
 Case : ABS, RAL9010  
 Case Dimensions : 87.5 x 87.5 x 30 mm  
 Protection Class : IP20



Code	Description	Price (€)
R-TT-A-PT100	PT100	29
R-TT-A-PT1000	PT1000	29
R-TT-A-Ni1000	LG-Ni1000	29
R-TT-A-NTC...	NTC 5k, 10k, 20k	29
R-TT-A-NTC 1,8	NTC 1,8 kOhm	26
R-TT-A-10	Active, 0...10V	128
R-TT-A-20	Active, 4-20mA	128
R-TT-AP-PT100	PT100, Setting button, 0...50 C	74
R-TT-AP-PT1000	PT1000, Setting button, 0...50 C	74
R-TT-AP-Ni1000	Ni1000, Setting button, 0...50 C	74
R-TT-AP-NTC...	NTC 5k, 10k, 20k, Setting button, 0...50 C	74
R-TT-AP-NTC 1,8	NTC 1,8 kOhm , Setting button, 0...50 C	74

# Temperature Sensors

## Duct Type Temperature Sensors

Measurement Range : -50°C ... + 180°C  
 Case : PA6 15% GK, Color RAL 9010  
 Case Dimensions : 65 x 60 x 38 mm  
 Protection Class : IP65



Code	Description	Price (€)
D-TT-A-PT100/50mm	PT100, Probe length:50mm	42
D-TT-A-PT100/100mm	PT100, Probe length:100mm	43
D-TT-A-PT100/150mm	PT100, Probe length:150mm	45
D-TT-A-PT100/200mm	PT100, Probe length:200mm	47
D-TT-A-PT1000/50mm	PT1000, Probe length:50mm	42
D-TT-A-PT1000/100mm	PT1000, Probe length:100mm	43
D-TT-A-PT1000/150mm	PT1000, Probe length:150mm	45
D-TT-A-PT1000/200mm	PT1000, Probe length:200mm	47
D-TT-A-Ni1000/50mm	Ni1000, Probe length:50mm	45
D-TT-A-Ni1000/100mm	Ni1000, Probe length:100mm	47
D-TT-A-Ni1000/150mm	Ni1000, Probe length:150mm	49
D-TT-A-Ni1000/200mm	Ni1000, Probe length:200mm	50
D-TT-A-NTC .../50mm	NTC 5k, 10k, 20k, Probe length:50mm	38
D-TT-A-NTC .../100mm	NTC 5k, 10k, 20k, Probe length:100mm	40
D-TT-A-NTC .../150mm	NTC 5k, 10k, 20k, Probe length:150mm	42
D-TT-A-NTC .../200mm	NTC 5k, 10k, 20k, Probe length:200mm	43
D-TT-A-NTC 1,8/50mm	NTC 1,8 kOhm, Probe length:50mm	39
D-TT-A-NTC 1,8/100mm	NTC 1,8 kOhm, Probe length:100mm	40
D-TT-A-NTC 1,8/150mm	NTC 1,8 kOhm, Probe length:150mm	42
D-TT-A-NTC 1,8/200mm	NTC 1,8 kOhm, Probe length:200mm	43
D-TT-A-10/50mm	Active, 0...10V, Probe length:50mm	139
D-TT-A-10/100mm	Active, 0...10V, Probe length:100mm	140
D-TT-A-10/150mm	Active, 0...10V, Probe length:150mm	142
D-TT-A-10/200mm	Active, 0...10V, Probe length:200mm	145
D-TT-A-20/50mm	Active, 4-20mA, Probe length:50mm	139
D-TT-A-20/100mm	Active, 4-20mA, Probe length:100mm	140
D-TT-A-20/150mm	Active, 4-20mA, Probe length:150mm	142
D-TT-A-20/200mm	Active, 4-20mA, Probe length:200mm	145



## Temperature Sensors

### Duct Type Temperature Sensors (Plastic Flanged)

Measurement Range : -50°C ... + 180°C  
 Cable Length : 2 meters  
 Sensor Dimension : 6 x 200 mm  
 Protection Class : IP65



Code	Description	Price (€)
DC-TT-A-PT100	PT100	22
DC-TT-A-PT1000	PT1000	22
DC-TT-A-Ni1000	Ni1000	22
DC-TT-A-NTC ...	NTC 5k, 10k, 20k	22
DC-TT-A-NTC 1,8	NTC 1,8 kOhm	21

### Immersion Type Temperature Sensors (Cable Type)

Measurement Range : -50°C ... + 180°C  
 Connection : 1/2 "  
 Cable Length : 2 meters  
 Sensor Dimension : 6 x 100 mm  
 Protection Class : IP65

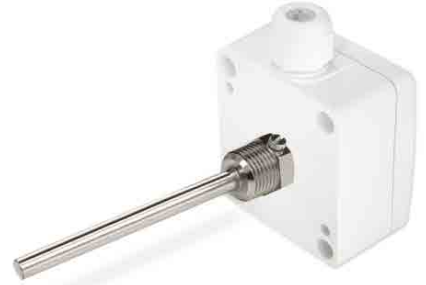


Code	Description	Price (€)
IC-TT-A-PT100	PT100	29
IC-TT-A-PT1000	PT1000	29
IC-TT-A-Ni1000	Ni1000	29
IC-TT-A-NTC ...	NTC 5k, 10k, 20k	29
IC-TT-A-NTC 1,8	NTC 1,8 kOhm	28

# Temperature Sensors

## Immersion Type Temperature Sensors

Measurement Range : -50°C ... + 180°C  
 Connection : 1/2 "   
 Case : PA6 15% GK, Color RAL 9010  
 Case Dimensions : 65 x 60 x 38 mm  
 Protection Class : IP65



Code	Description	Price (€)
I-TT-L-PT100/50mm	PT100, Probe length:50mm	42
I-TT-L-PT100/100mm	PT100, Probe length:100mm	43
I-TT-L-PT100/150mm	PT100, Probe length:150mm	45
I-TT-L-PT100/200mm	PT100, Probe length:200mm	47
I-TT-L-PT1000/50mm	PT1000, Probe length:50mm	42
I-TT-L-PT1000/100mm	PT1000, Probe length:100mm	43
I-TT-L-PT1000/150mm	PT1000, Probe length:150mm	45
I-TT-L-PT1000/200mm	PT1000, Probe length:200mm	47
I-TT-L-Ni1000/50mm	Ni1000, Probe length:50mm	45
I-TT-L-Ni1000/100mm	Ni1000, Probe length:100mm	47
I-TT-L-Ni1000/150mm	Ni1000, Probe length:150mm	49
I-TT-L-Ni1000/200mm	Ni1000, Probe length:200mm	50
I-TT-L-NTC .../50mm	NTC 5k, 10k, 20k, Probe length:50mm	38
I-TT-L-NTC .../100mm	NTC 5k, 10k, 20k, Probe length:100mm	40
I-TT-L-NTC .../150mm	NTC 5k, 10k, 20k, Probe length:150mm	42
I-TT-L-NTC .../200mm	NTC 5k, 10k, 20k, Probe length:200mm	43
I-TT-L-NTC 1,8/50mm	NTC 1,8 kOhm, Probe length:50mm	40
I-TT-L-NTC 1,8/100mm	NTC 1,8 kOhm, Probe length:100mm	41
I-TT-L-NTC 1,8/150mm	NTC 1,8 kOhm, Probe length:150mm	42
I-TT-L-NTC 1,8/200mm	NTC 1,8 kOhm, Probe length:200mm	47
I-TT-L-10/50mm	Active, 0...10V, Probe length:50mm	139
I-TT-L-10/100mm	Active, 0...10V, Probe length:100mm	140
I-TT-L-10/150mm	Active, 0...10V, Probe length:150mm	142
I-TT-L-10/200mm	Active, 0...10V, Probe length:200mm	145
I-TT-L-20/50mm	Active, 4-20mA, Probe length:50mm	139
I-TT-L-20/100mm	Active, 4-20mA, Probe length:100mm	140
I-TT-L-20/150mm	Active, 4-20mA, Probe length:150mm	142
I-TT-L-20/200mm	Active, 4-20mA, Probe length:200mm	145

## Temperature Sensors

### Cable Type Temperature Sensors

Measuring Range : -35 ... + 105  
 Sensor Dimension : 6 x 50 mm  
 Cable Type : PVC  
 Protection Class : IP65

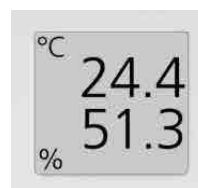


Code	Description	Price (€)
C-TT-PT100/2000	PT100, 2 meter	19
C-TT-PT100/8000	PT100, 8 meter	27
C-TT-PT1000/2000	PT1000, 2 meter	19
C-TT-PT1000/8000	PT1000, 8 meter	27
C-TT-Ni1000/2000	Ni1000, 2 meter	19
C-TT-Ni1000/8000	Ni1000, 8 meter	27
C-TT-NTC .../2000	NTC 5k, 10k, 20k, 2 meter	19
C-TT-NTC .../8000	NTC 5k, 10k, 20k, 8 meter	27
C-TT-NTC 1,8/2000	NTC 1,8 kOhm, 2 meter	22
C-TT-NTC 1,8/8000	NTC 1,8 kOhm, 8 meter	28

## Temperature and Humidity Compact Sensor

### Humidity and Temperature Sensors

Temperature Measurement Range : 0 ... + 50°C  
 Sensitivity : +/- 0.5 K  
 Dimension : 87 x 87 x 30 mm  
 Material : ABS, color RAL 9010



Code	Description	Price (€)
R-HTT-A-1010	Temperature DC 0...10V, Humidity DC 0...10V	151
R-HTT-A-2020	Temperature 4-20mA, Humidity 4-20mA, rh%100	151
R-HTT-A-10PT1000	Temperature PT1000, Humidity 0...10V, rh%100	158
R-HTT-A-1010D	Temperature 0...10V, Humidity 0...10V, rh%100, with Display	151
R-HTT-A-2020D	Temperature 4-20mA, Humidity 4-20mA, rh%100, with Display	151
R-HTT-A-10PT1000D	Temperature PT1000, Humidity 0...10V, rh%100, with Display	213

## Humidity and Temperature Sensors

### Duct Type Humidity and Temperature Sensors

Humidity Measurement Range : 0 ... 100% Rh%  
 Temperature Measurement Range : -30°C ... + 50°C  
 Case : ABS, RAL9010  
 Case Dimensions : 65 x 60 x 38 mm  
 Protection Class : IP65



Code	Description	Price (€)
D-HTT-A-1010	Temperature 0...10V, Humidity 0...10V, rh%100	160
D-HTT-A-2020	Temperature 4-20mA, Humidity 4-20mA, rh%100	166
D-HTT-A-10PT1000	Temperature PT1000, Humidity 0...10V, rh%100	160
D-HTT-A-1010D	Temperature 0...10V, Humidity 0...10V, rh%100, Display	213
D-HTT-A-2020D	Temperature 4-20mA, Humidity 4-20mA, rh%100, Display	219
D-HTT-A-10PT1000D	Temperature PT1000, Humidity 0...10V, rh%100, Display	213

### Outdoor Air Humidity and Temperature Sensors

Humidity measurement range : 0...100% , DC 0...10V  
 Temperature measurement range : -30...+70 C , DC 0...10V  
 Case Dimensions : 65 x 60 x 38 mm  
 Material : PA6 15% GK, RAL 9010  
 Protection Class : IP65



Code	Description	Price (€)
OT-RHT-A-1010	Temperature 0...10V, Humidity 0...10V, rh%100	181
OT-RHT-A-2020	Temperature 4-20mA, Humidity 4-20mA, rh%100	181
OT-RHT-A-0010	Temperature PT1000, Humidity 0...10V, rh%100	181
OT-RHT-A-1010D	Temperature 0...10V, Humidity 0...10V, rh%100, with Display	181
OT-RHT-A-2020D	Temperature 4-20mA, Humidity 4-20mA, rh%100, with Display	181
OT-RHT-A-0010D	Temperature PT1000, Humidity 0...10V, rh%100, with Display	181

## Pressure Sensors - Switches

### Differential Pressure Sensors (for Air)

Working Temperature : -10 ... + 70°C  
 Dimension : 66 x 60 x 39 mm  
 Protection Class : IP65  
 Pressure Port : Breast from stainless steel  
 Supplied Accessories : 2 Pressure connection kit 2 pieces of air connection PVC pipe



Code	Description	Price (€)
DPT-A-1000-10	Adjustable Pressure Range: 0...100/300 / 500 / 1000Pa -100...+100/-300...+300/-500...+500/-1000...+1000Pa 0...10V, 16-24VDC / 24VAC	143
DPT-A-7000-10	Adjustable Pressure Range: 0...2000 / 3000 / 5000 / 7000Pa -2000...+2000/-3000...+3000/-5000...+5000/-7000...+7000Pa 0...10V, 16-24VDC / 24VAC	143
DPT-A-1000-20	Adjustable Pressure Range: 0...100/300 / 500 / 1000Pa -100...+100/-300...+300/-500...+500/-1000...+1000Pa 4-20mA, 16-24VDC / 24VAC	143
DPT-A-7000-20	Adjustable Pressure Range: 0...2000 / 3000 / 5000 / 7000Pa -2000...+2000/-3000...+3000/-5000...+5000/-7000...+7000Pa 4-20mA, 16-24VDC / 24VAC	143
DPT-A-1000-10D	Adjustable Pressure Range: 0...100/300 / 500 / 1000Pa -100...+100/-300...+300/-500...+500/-1000...+1000Pa 0...10V, 16-24VDC / 24VAC, Display	201
DPT-A-7000-10D	Adjustable Pressure Range: 0...2000 / 3000 / 5000 / 7000Pa -2000...+2000/-3000...+3000/-5000...+5000/-7000...+7000Pa 0...10V, 16-24VDC / 24VAC, Display	201
DPT-A-1000-20D	Adjustable Pressure Range: 0...100/300 / 500 / 1000Pa -100...+100/-300...+300/-500...+500/-1000...+1000Pa 4-20mA, 16-24VDC / 24VAC, Display	201
DPT-A-7000-20D	Adjustable Pressure Range: 0...2000 / 3000 / 5000 / 7000Pa -2000...+2000/-3000...+3000/-5000...+5000/-7000...+7000Pa 4-20mA, 16-24VDC / 24VAC, Display	201

### Differential Pressure Switches - Dry Contact

Working Temperature : -20°C ... +85°C  
 Protection Class : IP54  
 Supplied Accessories : Air connection PVC pipe



Code	Description	Price (€)
DPS-A-3	Adjustable Pressure Range: 30...300 Pa	26
DPS-A-5	Adjustable Pressure Range: 50...500 Pa	26
DPS-A-10	Adjustable Pressure Range: 100...1000 Pa	26

## Pressure Sensors - Switches

### Pressure Sensor for Liquid and Gas

Connection : 1/2 "  
 Working Temperature : 0 ... + 85°C  
 Protection Class : IP65



Code	Description	Price (€)
PT-LG-P1,6 - 0..10V	0...10V, 0...1,6 Bar	200
PT-LG-P2,5 - 0..10V	0...10V, 0...2,5 Bar	200
PT-LG-P4 - 0..10V	0...10V, 0...4 Bar	200
PT-LG-P6 - 0..10V	0...10V, 0...6 Bar	200
PT-LG-P10 - 0..10V	0...10V, 0...10 Bar	200
PT-LG-P16 - 0..10V	0...10V, 0...16 Bar	200
PT-LG-P25 - 0..10V	0...10V, 0...25 Bar	200
PT-LG-P40 - 0..10V	0...10V, 0...40 Bar	200
PT-LG-P60 - 0..10V	0...10V, 0...60 Bar	200
PT-LG-P-1 - 0..10V	0...10V, -1...0 Bar	220
PT-LG-P1,6 - 4-20mA	4-20mA, 0...1,6 Bar	233
PT-LG-P2,5 - 4-20mA	4-20mA, 0...2,5 Bar	233
PT-LG-P4 - 4-20mA	4-20mA, 0...4 Bar	233
PT-LG-P6 - 4-20mA	4-20mA, 0...6 Bar	233
PT-LG-P10 - 4-20mA	4-20mA, 0...10 Bar	233
PT-LG-P16 - 4-20mA	4-20mA, 0...16 Bar	233
PT-LG-P25 - 4-20mA	4-20mA, 0...25 Bar	233
PT-LG-P40 - 4-20mA	4-20mA, 0...40 Bar	233
PT-LG-P60 - 4-20mA	4-20mA, 0...60 Bar	233
PT-LG-P-1 - 4-20mA	4-20mA, -1...0 Bar	242

### Differential Pressure Sensor for Liquid

Pressure Range : 1-2-4-5-10 Bar  
 Working Temperature : 0... + 70°C  
 Check-out : 0 ... 10V  
 Power Supply : 24V AC  
 Supplied Accessories : Probe connection kit



Code	Description	Price (€)
DPT-LG-P1	DC 0...10V, 1 Bar	550
DPT-LG-P2	DC 0...10V, 2 Bar	550
DPT-LG-P4	DC 0...10V, 4 Bar	550
DPT-LG-P5	DC 0...10V, 5 Bar	550
DPT-LG-P10	DC 0...10V, 10 Bar	550

## Frost Protection Thermostats

### Frost Protection Thermostats

Switching Capacity : 16 (16) A, 12 ... 250 V AC  
 Operating Range : -18 ... + 13 ° C  
 Ambient Temperature : -30 ... 0, + 55°C 0... 95% RH.  
 Protection Class : IP44



Code	Description	Price (€)
FPU-A-AR-3000	Auto reset, 3mt cap, -18...+13°C	82
FPU-A-AR-6000	Auto reset, 6mt cap, -18...+13°C	89
FPU-A-AR-6000M	Manual reset, 6mt cap, -18...+13°C	95

## Air Quality Sensors

### Room Type Air Quality Sensors

Measurement Range : 0...2000 ppm , 0...5000 ppm with DIP switch  
 Case : PA6 GK 15%, 9010 RAL white  
 Dimensions : 65 x 60 x 38 mm  
 Protection Class : IP65  
 Working Temperature : 0 ... + 50°C



Code	Description	Price (€)
R-CO2T-A-10	CO2, DC0...10V	319
R-CO2TT-A-1010	CO2 + Temperature, DC 0...10V	355
R-CO2RHTT-A-1010	CO2 + Temperature + Humidity, DC 0...10V	374
R-CO2T-A-20	CO2, 4-20mA	319
R-CO2TT-A-2020	CO2 + Temperature, 4-20mA	355
R-CO2RH-A-2020	CO2 + Humidity, 4-20mA	374
R-CO2T-A-10D	CO2, DC0...10V, Display	392
R-CO2TT-A-1010D	CO2 + Temperature, DC 0...10V, with Display	428
R-CO2RHTT-A-1010D	CO2 + Temperature + Humidity, DC 0...10V, with Display	447
R-CO2T-A-20D	CO2, 4-20mA, with Display	392
R-CO2TT-A-2020D	CO2 + Temperature, 4-20mA, with Display	428
R-CO2RH-A-2020D	CO2 + Humidity, 4-20mA, with Display	447

## Air Quality Sensors

### Duct Type Air Quality Sensors

Measurement Range : 0...2000 ppm , 0...5000 ppm with DIP switch  
 Case : PA6 GK 15%, 9010 RAL white  
 Protection Class : IP65  
 Accessories : Connection flange  
 Working Temperature : 0 ... + 50°C



Code	Description	Price (€)
D-CO2T-A-10	CO2, DC0...10V	333
D-CO2T-A-1010	CO2 + Temperature, DC 0...10V	344
D-CO2TRH-A-1010	CO2 + Temperature + Humidity, DC 0...10V	355
D-CO2T-A-20	CO2, 4-20mA	333
D-CO2T-A-2020	CO2 + Temperature, 4-20mA	344
D-CO2T-A-10D	CO2, DC0...10V, Display	376
D-CO2T-A-1010D	CO2 + Temperature, DC 0...10V, Display	386
D-CO2TRH-A-1010D	CO2 + Temperature + Humidity, DC 0...10V, Display	397
D-CO2T-A-20D	CO2, 4-20mA, Display	376
D-CO2T-A-2020D	CO2 + Temperature, 4-20mA, Display	386

## Hygrostats

### Room Type Hygrostat

Scale Range : 30 ... 100% Rh  
 Accuracy : Range > 40% r ± 3.0% Rh  
 Protection Class : IP30  
 Working Temperature : 0 ... + 60°C



Code	Description	Price (€)
R-RHS-15	Adjustment button, on-off	128

### Duct Type Hygrostat

Scale Range : 30 ... 100% Rh  
 Switching Capacity : 100mA, 125VAC  
 Protection Class : IP54  
 Weight : 700g  
 Air Speed: 8 m / sec, operating temperature : 0 ... + 60°C



Code	Description	Price (€)
D-RHS-15	Scale range button	327



## Flow Switch for Liquid - Brass

Connection : 1 "  
 Protection Class : IP65  
 Working Temperature : -25... + 120°C



Code	Description	Price (€)
FS-15	Flow switch for liquids and gas, PN16, brass	115

## Air Speed Sensor

Operating Voltage : 24VDC Voltage Tolerance: ± 5%  
 Signal Indicator Power : Network, green LED Maximum power: 4VA  
 Ambient Temperature : -20 ... + 50°C  
 Check-out : 0 ... 10 V  
 Specifications: 30K / min Switching point : 0.1 ... 10 m  
 Maximum Measuring Range : 0,1 ... 30 m  
 Protection Class : IP65



Code	Description	Price (€)
D-VT-A-30	Hava Hz sensörü, 0...10V	238

## Radiation Sensors

Power Supply : 15 ... 36 VDC, 24 VAC.  
 Accuracy : +/- 0.2 K + Maximum 3% EW.  
 Measurement Range : Selectable ranges through 24 measurement dip switches  
 Connection : Screw 1.5 mm<sup>2</sup>

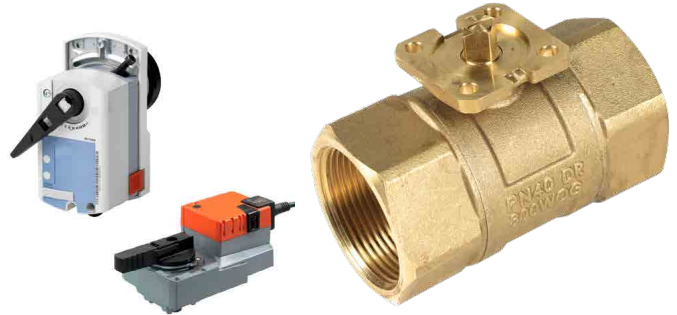


Code	Description	Price (€)
W-ORT-A-10	Outdoor Air Type Radiation Sensor - 0 -10V	105
W-ORT-A-420	Outdoor Air Type Radiation Sensor - 4 - 20mA	110
R-RRT-A-10	RoomType Radiation Sensor - 0 -10V	105
R-RRT-A-420	RoomType Radiation Sensor - 4 -20 mA	110
R-RRT-A-PT1000	RoomType Radiation Sensor - PT1000	80

## Internal Thread Valves

### 2 Port Internal Thread Valves PN40

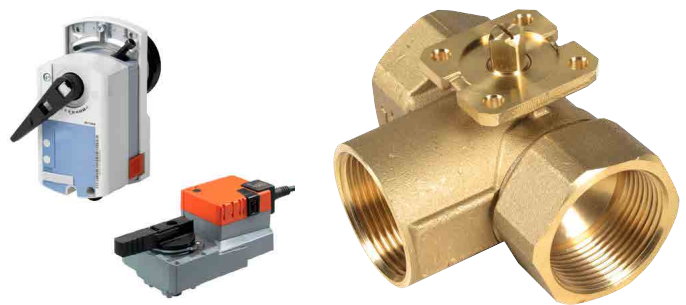
- Brass Body
- DN15.....DN50
- Kvs 2.5.....63 m<sup>3</sup>/h
- AC 24V, DC 0... 10V / AC 230V Floating Control Actuators
- DN15, DN20 Actuators / 5 Nm
- DN25, DN32, DN40, DN50 Actuators / 10 Nm



Code	Description	Price	Price
		ACTUATOR + VALVEBODY (€)	ACTUATOR + VALVEBODY (€)
		Valve body + Actuator type 220V, 3P Floating control	Valve body + Actuator type 24V, 0-10 V modulating control
DT215	PN40, DN15, k <sub>vs</sub> : 6,3 m <sup>3</sup> /h	167	210
DT220	PN40, DN20, k <sub>vs</sub> : 10 m <sup>3</sup> /h	174	217
DT225	PN40, DN25, k <sub>vs</sub> : 16 m <sup>3</sup> /h	187	230
DT232	PN40, DN32, k <sub>vs</sub> : 25 m <sup>3</sup> /h	217	260
DT240	PN40, DN40, k <sub>vs</sub> : 40 m <sup>3</sup> /h	236	279
DT250	PN40, DN50, k <sub>vs</sub> : 63 m <sup>3</sup> /h	325	368

### 3 Port Internal Thread Valves PN40

- Brass Body
- DN15.....DN50
- Kvs 2.5.....63 m<sup>3</sup>/h
- AC 24V, DC 0... 10V / AC 230V Floating Control Actuators
- DN15, DN20 Actuators / 5 Nm
- DN25, DN32, DN40, DN50 Actuators / 10 Nm



Code	Description	Price	Price
		ACTUATOR + VALVEBODY (€)	ACTUATOR + VALVEBODY (€)
		Valve body + Actuator type 220V, 3P Floating control	Valve body + Actuator type 24V, 0-10 V modulating control
DT315	PN40, DN15, k <sub>vs</sub> : 6,3 m <sup>3</sup> /h	202	245
DT320	PN40, DN20, k <sub>vs</sub> : 6,3 m <sup>3</sup> /h	214	257
DT325	PN40, DN25, k <sub>vs</sub> : 10 m <sup>3</sup> /h	239	282
DT332	PN40, DN32, k <sub>vs</sub> : 16 m <sup>3</sup> /h	288	331
DT340	PN40, DN40, k <sub>vs</sub> : 25 m <sup>3</sup> /h	351	394
DT350	PN40, DN50, k <sub>vs</sub> : 40 m <sup>3</sup> /h	451	494

\* Prices includes valve body + actuator

## Flange Valves

### 2 Port Flange Valves PN16

- Cast Iron Body EN-GJL-250
- DN50.....DN100
- $K_{vs}$  40.....160 m<sup>3</sup>/h
- Flange Connection Norm: ISO 7001
- DC 0... 10V - AC 24V / AC 230V 3P Floating Control Actuators



Code	Description	Price	Price
		ACTUATOR + VALVEBODY (€)	ACTUATOR + VALVEBODY (€)
		Valve body + Actuator type 220V, 3P Floating control	Valve body + Actuator type 24V, 0-10 V modulating control
DT216.40F	PN16, DN40, $k_{vs}$ : 25 m <sup>3</sup> /h	275	305
DT216.50F	PN16, DN50, $k_{vs}$ : 40 m <sup>3</sup> /h	279	309
DT216.65F	PN16, DN65, $k_{vs}$ : 63 m <sup>3</sup> /h	301	329
DT216.80F	PN16, DN80, $k_{vs}$ : 100 m <sup>3</sup> /h	364	394
DT216.100F	PN16, DN100, $k_{vs}$ : 160 m <sup>3</sup> /h	396	425

### 3 Port Flange Valves PN16

- Cast Iron Body EN-GJL-250
- DN50.....DN100
- $K_{vs}$  40.....160 m<sup>3</sup>/h
- Flange Connection Norm: ISO 7001
- DC 0... 10V - AC 24V / AC 230V 3P Floating Control Actuators



Code	Description	Price	Price
		ACTUATOR + VALVEBODY (€)	ACTUATOR + VALVEBODY (€)
		Valve body + Actuator type 220V, 3P Floating control	Valve body + Actuator type 24V, 0-10 V modulating control
DT316.40F	PN16, DN40, $k_{vs}$ : 25 m <sup>3</sup> /h	278	308
DT316.50F	PN16, DN50, $k_{vs}$ : 40 m <sup>3</sup> /h	283	313
DT316.65F	PN16, DN65, $k_{vs}$ : 63 m <sup>3</sup> /h	306	336
DT316.80F	PN16, DN80, $k_{vs}$ : 100 m <sup>3</sup> /h	370	400
DT316.100F	PN16, DN100, $k_{vs}$ : 160 m <sup>3</sup> /h	399	429



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