SENTERA CONTROLS

DTAP
Universal programmable controller

The DTAP series are universal programmable controllers. They have a temperature and/or analogue input (0—10 VDC / 0—20 mA / PWM) and provide a proportional analogue output with two setpoints, digital readout and output LED indication. The DTAP controller features programming of the setpoints for inputs and outputs.

Key features

- Wide power supply range
- Selectable input: 0—10 VDC / 0—20 mA / PWM
- Selectable output: 0—10 VDC / 0—20 mA / PWM
- 2 user-definable set points
- Adjustable off level
- Built-in PT500 or PT1000 temperature sensor (DTAPG-500 and DTAPG-1K0 versions)
- Digital readout and output level indication with LEDs
- Modbus RTU interface (RS485) communication

Technical specifications

Consumption	18—34 VDC supply	no load: 70—25 mA
	15—24 VAC ±10% supply	no load: 85—60 mA
Inputs	1 analogue / modulating input (0—10 VDC / 0—20 mA / PWM) or 1 temperature input (PT500 or PT1000)	
Input modes	0—10 VDC mode	Input impedance: 90 kΩ
	0—20 mA mode	Input impedance: 250 Ω
	PWM mode	Frequency: 500 Hz - 10 kHz Amplitude: 3—24 VDC
Outputs	1 analog / modulating output (0—10 VDC / 0—20 mA / PWM)	
Output modes	0—10 VDC mode	Min. load: 2 kΩ
	0—20 mA mode	Min load: 500 Ω
	PWM mode	Min. load: 2 kΩ Frequency: 2 kHz
Operating temperature range		-10—50 °C
Setpoints		2 adjustable
Hysteresis		2 % / 0,2 °C, 5 % / 0,5 °C, 10 % / 1,0 °C
Supply output		+5 VDC /20 mA
Protection standard		IP65 (according to EN 60529)
Ambient conditions	Temperature	10—50 °C
	Rel. humidity	< 95 % rH (non-condensing)

Area of use

- HVAC control for improved comfort and energy saving

Article codes

	Supply	Built-in temperature sensor
DTAPG	15—24 VAC ±10% 18—34 VDC	no*
DTAPG-500	15—24 VAC ±10% 18—34 VDC	PT500
DTAPG-1K0	15—24 VAC ±10% 18—34 VDC	PT1000

*External passive temperature sensors can be connected: FLTSN, TUTSN, DUTSN, ROTSN, ODTSN.

Wiring and connections

VIN	18—34 VDC	15—24 VAC ±10%
GND	Common ground*	AC ~*
Ai1	Analogue / modulating input** (0—10 VDC / 0—20 mA / PWM)	
GND	Common ground*	
T1	Temperature sensor input** (PT500 or PT1000)	
A	Modbus RTU (RS485), signal A	
/B	Modbus RTU (RS485), signal /B	
+5V, GND	Supply output, + 5 VDC / 20 mA	
Ao1	Analogue / modulating output (0—10 VDC / 0—20 mA / PWM)	
GND	Common ground*	
Connections	Cable cross section: max. 1,5 mm²	

*Caution: Never connect the common ground of G type articles to other devices powered by a DC voltage. If an AC power supply is used with a unit on a Modbus network, the GND terminal should NOT BE CONNECTED to other units on the network or via the CNVT-USB-RS485 converter. This may cause permanent damage to the communication semiconductors and / or the computer!

**Connect either the analogue / modulating input (Ai1) or the temperature input (T1). Never connect both simultaneously.

Modbus registers

The Sensistant Modbus configurator allows you to easily monitor and/or configure Modbus parameters.

The parameters of the unit can be monitored / configured through the 3SModbus software platform. You can download it from the following link:
https://www.sentera.eu/en/3SMCenter

For more information about the Modbus registers, please refer to the product Modbus Register Map.
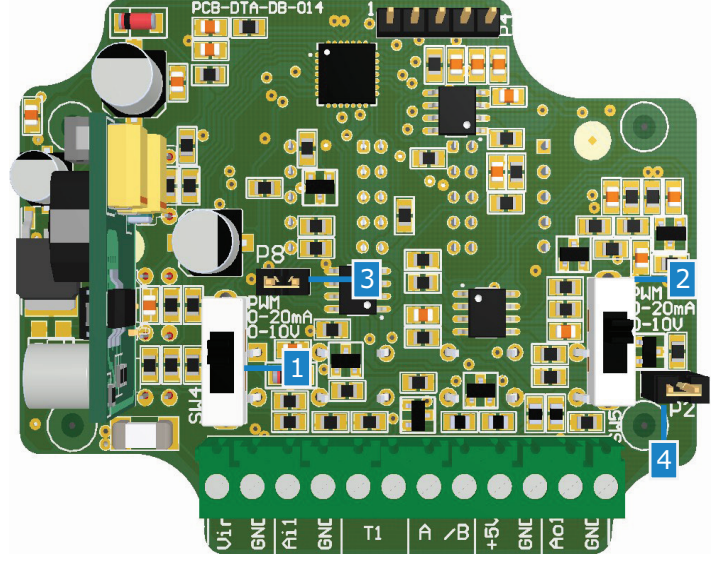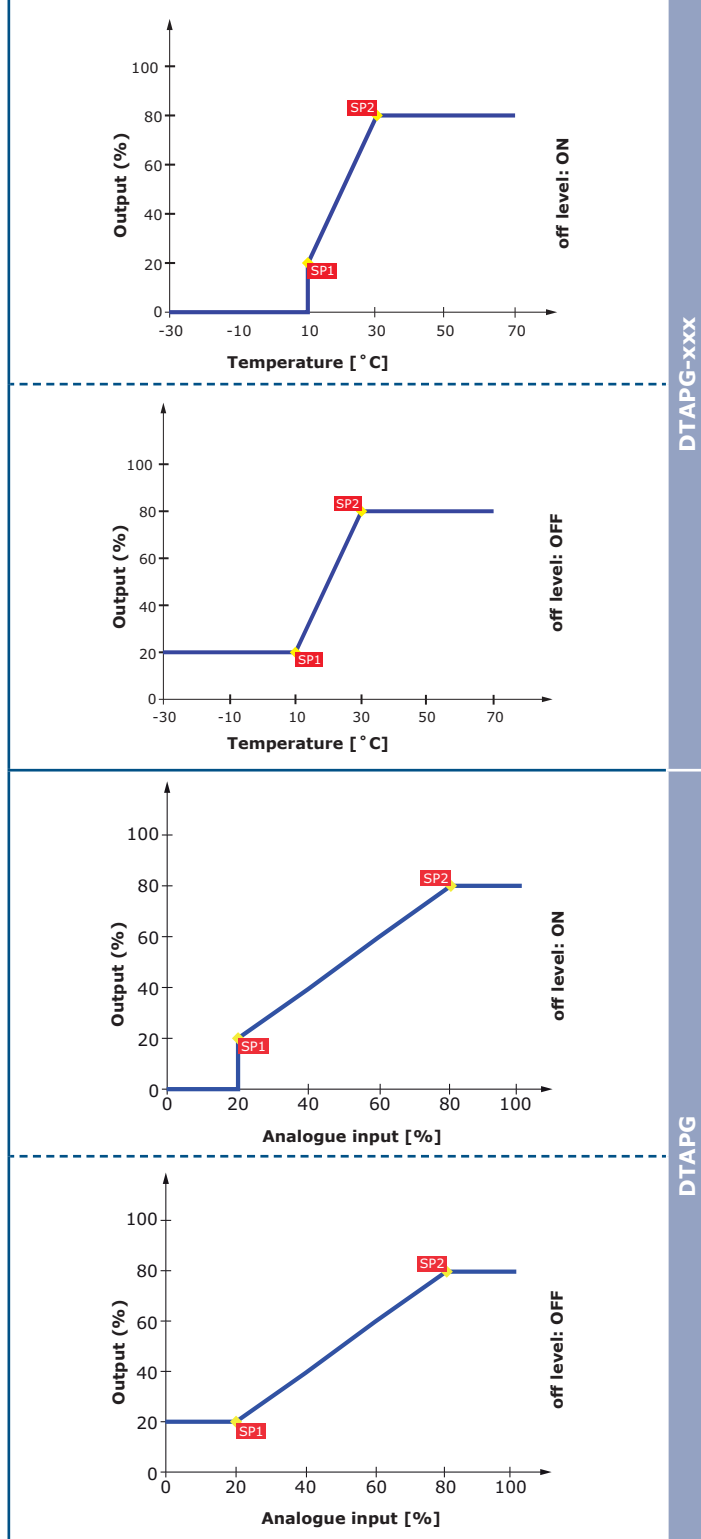
Global trade item numbers (GTIN)

Article	Unit	Carton	Box
DTAPG	05401003002032	05401003300602	05401003500811
DTAPG-500	05401003002056	05401003300626	05401003500835
DTAPG-1K0	05401003002049	05401003300619	05401003500828

Operational diagram(s)

DTAPG-xxx

off level: ON

off level: OFF

DTAPG

off level: ON

off level: OFF

PCB-DTA-DB-014

Settings

1 - Analogue input selection (SW4)		3 2 1	Factory preset: 0—10 VDC
2 - Analogue output selection (SW5)		3 2 1	Factory preset: 0—10 VDC
3 - Network bus resistor jumper (P8)		▪▪*	NBT is activated when the jumper is closed. In each Modbus RTU network, 2 NBTs need to be activated.
4 - PWM jumper (P2)		▪▪*	By default, the PWM output is connected to an internal 12 VDC source. When the jumper is closed, the PWM output must be connected to an external 3,3—30 VDC voltage source.

(▪▪ indicates closed position of the jumper.)

Standards

- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
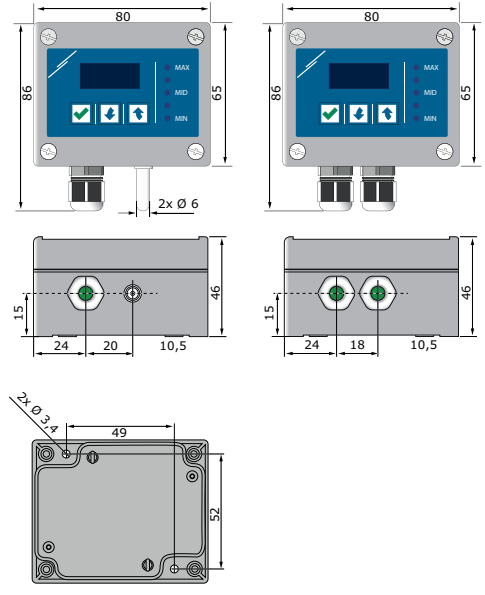- WEEE Directive 2012/19/EU
- RoHs Directive 2011/65/EU
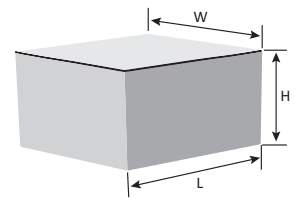
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Fixing and dimensions

Packaging

Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
Unit (1 pc.)	87	82	55	0,13 kg	0,16 kg
Carton (10 pcs.)	492	182	84	1,25 kg	1,70 kg
Box (60 pcs.)	590	380	280	7,5 kg	10,84 kg