



# DP1S

## Digital electronic fan speed controller diff. pressure / time

The DP1S controllers control the rotational speed of single-phase (230 VAC - 50 Hz) voltage controllable motors according to differential pressure. They provide a great number of user adjustable options such as: PI controlled output, auto and manual operation modes, possibility for input / output adjustment, kick start with programmable duration, min. and max. speed limitations, digital readout, TK protection, internal real-time clock (day / night, day / week programmable), outputs for a valve (230 VAC) and connecting a slave unit (0–10 V / 0–20 mA). The firmware can be changed via the USB interface (into TE1S, TE2S, DP2S, CO1S, CO2S, TC1S, TC2S, RH1S, RH2S) according to the application requirements. A differential pressure transmitter is not included.

### Key features

- 1 setpoint in the range: 10–90 % of transmitter range
- PI control of the output
- Analog output: selectable between proportional and digital (for alarm function on TK input)
- Input for remote control: remote on / off switching, max. ventilation
- 1 unregulated output 230 VAC for a valve connection
- Auto mode: speed increases when differential pressure drops
- Manual mode: speed increases / decreases on user demand until the next switching point set by a real-time clock
- Min. and max. speed settings
- Min. safety speed setting
- Time to max. speed
- Kick start with adjustable duration
- Motor overheating protection with an option for delayed detection
- User-friendly and intuitive multilingual menu
- User and installer priorities set by passwords
- Reset to factory settings

### Technical specifications

Power supply	230 VAC ± 10 % - 50 Hz	
Sensor measurement range (SR)	0–10.000 Pa	
Setpoint (SP)	10–90 % SR	
Output	Proportional / Digital (H = 10 VDC; L = 0 VDC)	
Analog output	0–10 VDC / 4–20 mA	
PI control	P coefficient: 0–100 Sample time: 1–100 ms	
Proportional range	5–75 % SR	
Min. safety speed	25–80 %	
Min. speed setting	min. safety speed–80 %	
Max. speed setting	(min. speed + 20 %)—100 %	
Kick start time	0–30 s	
Time to max. speed	2–100 s	
TK delay	0–60 s	
Protection standard	IP54	
Ambient conditions	Temperature	0–40 °C
	Rel. humidity	< 95 % rH (non-condensing)
Storage temperature	-10–50 °C	

### Standards

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



### Article codes

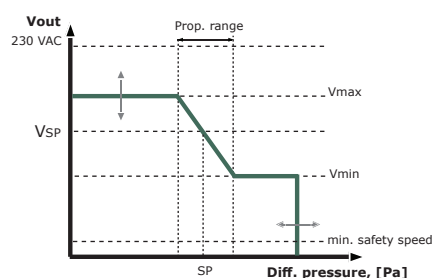
	Current rating, [A]	Fuse rating, [A] (5*20 mm)
<b>DP1S0-30-DT</b>	0,3–3,0 A	F1: F 5,0 A H 250V F2: F 1,0 A H 250V
<b>DP1S0-60-DT</b>	0,5–6,0 A	(6.3*32 mm) F1: F 10 A H 250V F2: F 1 A H 250V
<b>DP1S0100-DT</b>	1,0–10,0 A	(6.3*32 mm) F1: F 16 A H 250V F2: F 1 A H 250V

**Note:** When several motors have to be connected but the current range is exceeded, a few motors can be connected to a slave controller (see EVS series) which automatically follows the speed controller.

### Area of use

- Control and maintenance of differential pressure in HVAC applications
- For indoor use only

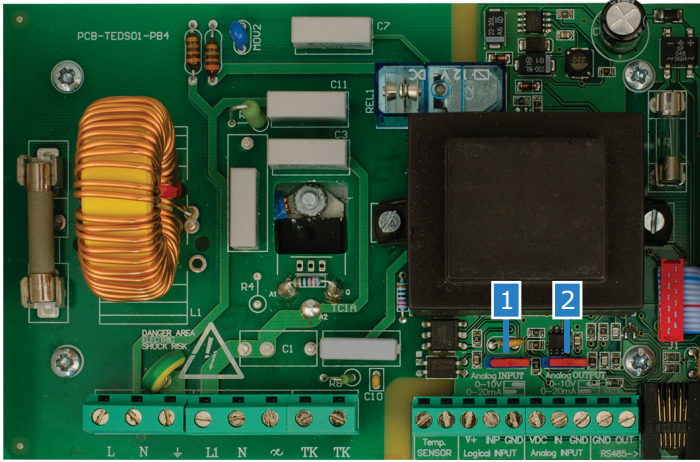
### Operational diagram(s)



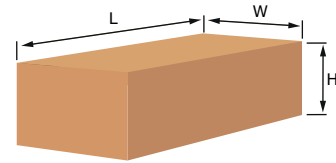


# DP1S

Digital electronic fan speed controller diff. pressure / time



## Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
DP1S0-30-DT	Unit (1 pc.)	265	175	145	1,58 kg	1,72 kg
DP1S0-60-DT	Unit (1 pc.)	265	175	145	1,63 kg	1,85 kg
DP1S0100-DT	Unit (1 pc.)	265	175	145	1,64 kg	1,86 kg

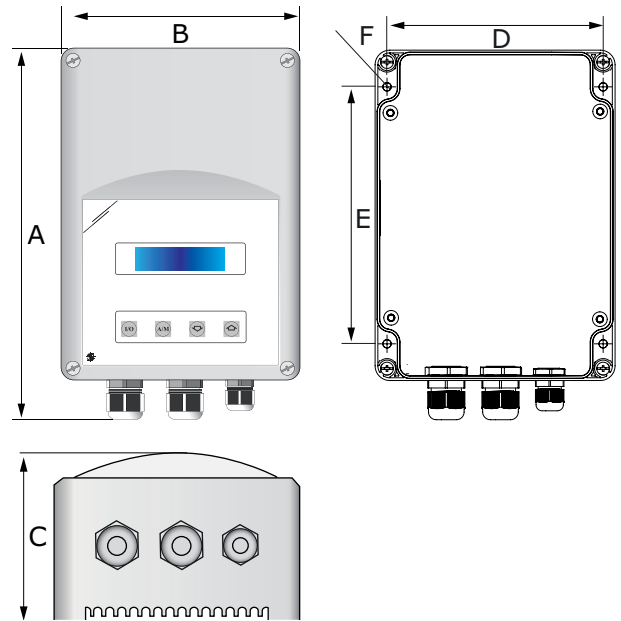
## Settings

1 - Analog input selection switch		0–10 VDC
		0–20 mA
2 - Analog output selection switch		0–10 VDC
		0–20 mA

## Wiring and connections

L, N	Power supply (230 VAC ± 10 % - 50 Hz)	
Pe	Earth terminal	
L1, N	Unregulated output 230 VAC / 2 A	
N, $\approx$	Regulated output to the motor	
TK	Thermal contact	
Temp. sensor	not used	
V+	Supply output 12 VDC / 300 mA	
INP	Logical input	12–24 VDC = true (on) 0 VDC = false (off)
Gnd	Ground	
VDC	Supply output 24 VDC / 300 mA	
IN	Analog input (0–10 VDC / 0–20 mA)	
OUT	Analog output (0–10 VDC / 0–20 mA)	
Connections	Cable cross section: 2,5 mm <sup>2</sup> Cable gland clamping range: 3–6 mm / 8–13 mm	

## Fixing and dimensions



Article code	A	B	C	D	E	F
DP1S	255 mm	170 mm	140 mm	155 mm	194 mm	Ø 4,2

## Global trade item numbers (GTIN)

Article	Unit
DP1S0-30-DT	05401003001080
DP1S0-60-DT	05401003001097
DP1S0100-DT	05401003001103