

## PID 3400-121 Module Specifications

Analog controller output***) IV 1/IV 2	0/4 ... 20 mA, passive		
	Supply voltage	3 ... 30 V <span style="float: right;"><math>I_{\max} = 100 \text{ mA}</math></span>	
	Load monitoring	Error message if load is exceeded	
	Measurement error <sup>1)</sup>	< 0.25% current value <span style="float: right;">&lt; 0.05 mA</span>	
	Usage	Actuation of analog control valves – IV1: Active below setpoint (For straightway valves) – IV2: Active above setpoint (For straightway valves)	
Digital controller output***) KV1/KV2	Electronic switching outputs, polarized, floating		
	Voltage drop	< 1.2 V	
	Load capability	DC: $U_{\max} = 30 \text{ V}$ <span style="float: right;"><math>I_{\max} = 100 \text{ mA}</math></span>	
	Usage	Actuation of straightway valves, metering pumps – KV1: Active below setpoint – KV2: Active above setpoint	
PID process controller	Continuous controller via current outputs IV 1, IV 2, or/and quasi-continuous controller via relay contacts KV1, KV2		
	Controlled variable*)	User-defined, dependent on measuring modules installed (only primary process variables pH, ORP, °C, S/cm, % O <sub>2</sub> , % Air)	
	Setpoint specification*)	As desired within range	
	Neutral zone*)	As desired within range	
	P action*)	Controller gain $K_p$ : 0010 ... 9999 %	
	I action*)	Reset time $T_I$ : 0000 ... 9999 s (0000 s = no integral action)	
	D action*)	Rate time $T_D$ : 0000 ... 9999 s (0000 s = no derivative action)	
	Pulse length controller*)	0001 ... 0600 s, min. <span style="float: right;">ON period 0.5 s</span>	
	Pulse frequency controller*)	0001 ... 0180 min <sup>-1</sup>	
	Response during function check*) (HOLD)	Controller output Y = constant <span style="float: right;">or controller output Y = 0</span>	
	Man. controller output specification	Manual specification for testing or starting up a process, bumpless switchover to automatic mode when I action ≠ 0000	
	Pulse period	0001 s (pulse length controller)	
	Switching outputs K9/K10	Electronic switching outputs, polarized, floating, interconnected with KV1/ KV2	
		Voltage drop	< 1.2 V
		Load capability	DC: $U_{\max} = 30 \text{ V}$ , <span style="float: right;"><math>I_{\max} = 100 \text{ mA}</math></span>
Usage		Limit monitoring or pre-control (3-point controller), process variable, threshold value, hysteresis, contact type (N/O or N/C), and user-defined ON/OFF delay	
Explosion protection	See Ex Certificates and EU Declaration of Conformity or <a href="http://www.knick.de">www.knick.de</a>		
RoHS conformity	According to EU directive 2011/65/EU		
EMC	NAMUR NE 21 and EN 61326-1, EN 61326-2-3		
	Emitted interference	Industrial applications <sup>2)</sup> (EN 55011 Group 1 Class A)	
	Immunity to interference	Industrial applications	
	Lightning protection	According to EN 61000-4-5 Installation class 2	

# Protos 3400 (X) / Protos II 4400 (X)

## PID 3400-121 Module Specifications – Continued

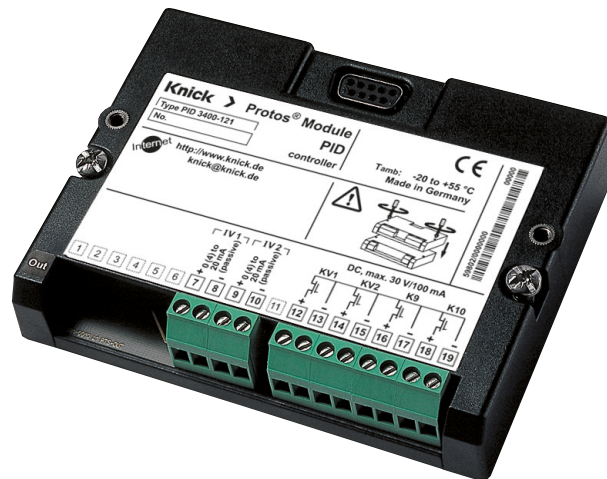
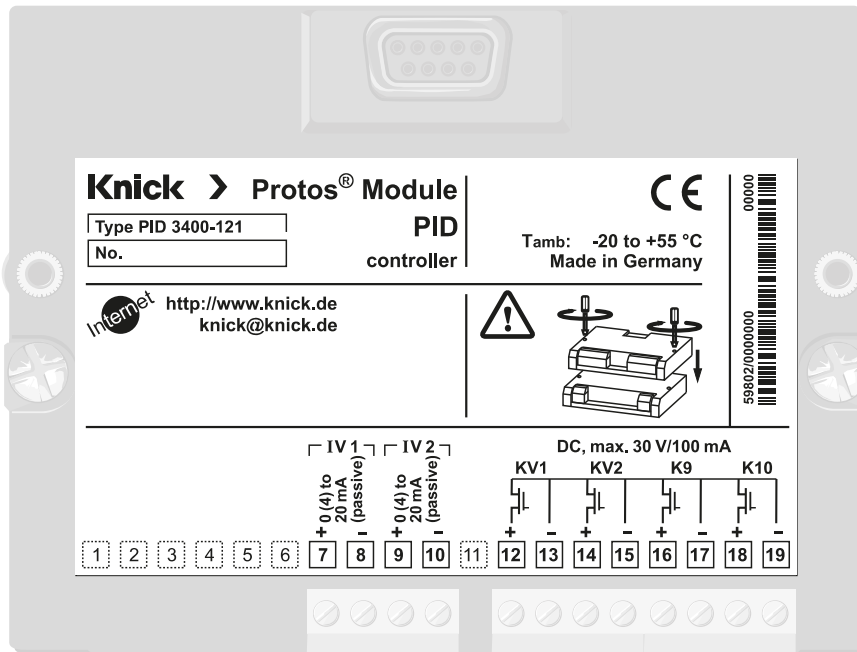
Rated operating conditions	Ambient temperature:	Safe area:	-20 ... 55 °C / -4 ... 131 °F
		Ex:	-20 ... 50 °C / -4 ... 122 °F
	Relative humidity:		5 ... 95 %
	Climatic class		3K5 according to EN 60721-3-3
	Location class		C1 according to EN 60654-1
	Transport/storage temperature:		-20 ... 70 °C / -4 ... 158 °F
Housing	Module enclosure		PC/ABS blend
	Color		Black
	Degree of protection		IP 20
	Dimensions (mm)		W x L x H 118 x 91 x 21
	Screw clamp connector		Single or stranded wires up to 2.5 mm <sup>2</sup>

\*) Adjustable

<sup>1)</sup> At rated operating conditions

<sup>2)</sup> This equipment is not designed for domestic use, and is unable to guarantee adequate protection of the radio reception in such environments.

PID 3400-121 Module Terminal Assignments



Protos 3400 (X) / Protos II 4400 (X)