



## SPECIFICATIONS

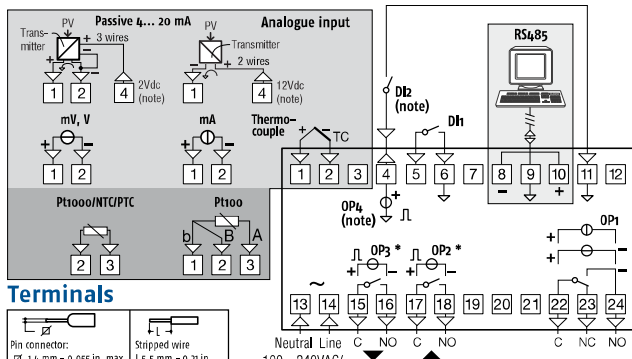
DISPLAY		KR5P/KM5P	KX5P
Dual LED	Main display:	4 digit h 10.9 mm (KR5P) or 15.5 (KM5P and KX5P) dynamic three colours red, green and amber or 1 fixed selectable colour	
	Secondary display:	4 digit h 6 mm (KR5P), 7.6 mm (KM5P) or 10 mm (KX5P) green colour	
	Bargraph:	-	20 segment bar graph
INPUTS			
Universal Input	Thermocouples:	J (-50... +1000°C/-58... +1832°F), K (-50... +1370°C/-58... +2498°F), S/R (-50... +1760°C/-58... +3200°F), T (-70... +400°C/-94... +752°F)	
	Infrared sensors:	J or K	
	RTD:	Pt100 3 wires and Pt1000 2 wires (-200... +850°C/-328... +1562°F)	
	Thermistors:	PTC KTY81-121 (-50... +150°C/-58... +302°F), NTC 103-AT2 (-50... +110°C/-58... +230°F)	
	Linear signals:	0/12... 60mV, 0/4... 20mA, 0/1... 5V, 0/2...10V	
Measurement accuracy	±0.5% span ±1 digit, (±1% span ±1 digit for T/c type S)		
Digital inputs	1 contact input + 1 (available when I/O 4 = DI2) programmable as voltage (24 VDC) or contact input		
OUTPUTS			
Up to four	OUT1:	Relay SPST-NO 4A/240 Vac (SPDT for KR5P) or voltage output for SSR driving 13V max. @ 1mA, 10.5V min. @ 15 mA ±10% or analogue 0/4... 20 mA, 0/2... 10 V galvanically isolated	
	OUT2 and OUT3 (*):	Relay SPST-NO 2A/240 Vac or Voltage output for SSR driving 13V max. @ 1mA, 10.5 V min. @ 15 mA ±10% or Relay SPST-NO 2A/240 Vac (for servomotor drive)	
	OUT4 programmable:	Voltage output for SSR driving 13V max. @ 1mA, 10.5 V min. @ 22 mA ±10% or transmitter power supply or 2 <sup>nd</sup> Digital Input	
FUNCTIONAL			
Control	PID single or double action, On/Off, On/Off with Neutral Zone, Servomotor. Autotune, Selftune and <i>evotune</i> . Overshoot control		
Alarms	3 alarms configurable as absolute, deviation, band		
Set Point	4 set Points selectable		
Serial communications	TTL (standard) + RS485 (optional), protocol: MODBUS RTU		
Communications speed	1200... 38400 baud selectable (8 bit + 1 stop bit, no parity)		
Evogreen	Time based Display switch-off, selectable		
Programmes	Up to 12 segments with "guaranteed soak"		
Programme memory	8 programmes		
Programme sequence	Up to 4 programmes can be executed in sequence		
GENERAL			
Power supply	24 Vac/dc ±10%, 100... 240 Vac/dc (-15... +10%), 50/60 Hz, power consumption 7 VA max.		
Temperature	Operating: 0... 50°C (32... 122°F); Storage: -20... +70°C (-4... +158°F);		
Relative humidity	20... 95 RH% with no condensation		
Conformity	EN 61010-1, EN 61326		

\*: For servomotor drive, both OUT2 and OUT3 are relay output (see "How to order": OUT2 and OUT3 = code M).

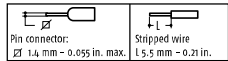
## CONNECTIONS AND DIMENSIONS

### KR5

#### Electrical connections



#### Terminals



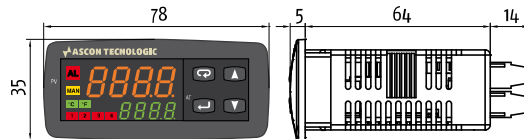
Note: Terminal 4 can be programmed as:

- Digital Input (DIz) connecting a free of voltage contact between terminals 4 and 11
- 0... 12 V SSR Drive Output (OP4) connecting the load between terminals 4 and 11
- 12 Vdc (20 mA) transmitter power supply connecting the transmitter between terminals 4 and 1

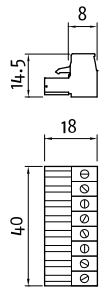
\*: For servomotor drive: OUT2 = open, OUT3 = dose.

#### Dimensions (mm)

##### Instrument with non-removable terminals

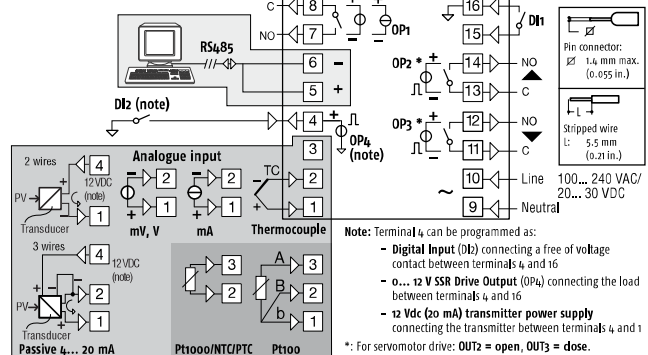


##### Removable terminals

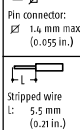


### KM5

#### Electrical connections



#### Terminals



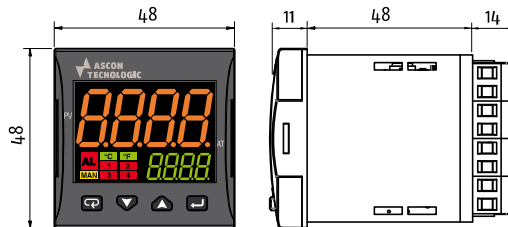
Note: Terminal 4 can be programmed as:

- Digital Input (DIz) connecting a free of voltage contact between terminals 4 and 16
- 0... 12 V SSR Drive Output (OP4) connecting the load between terminals 4 and 16
- 12 Vdc (20 mA) transmitter power supply connecting the transmitter between terminals 4 and 1

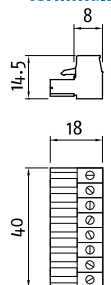
\*: For servomotor drive: OUT2 = open, OUT3 = dose.

#### Dimensions (mm)

##### Instrument with non-removable terminals



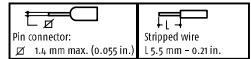
##### Removable terminals



### KX5

#### Electrical connections

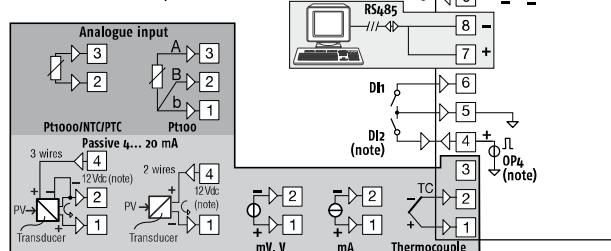
#### Terminals



Note: Terminal 4 can be programmed as:

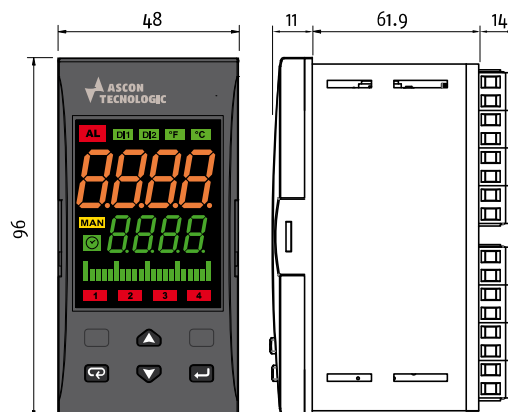
- Digital Input (DIz) connecting a free of voltage contact between terminals 4 and 5
- 0... 12 V SSR Drive Output (OP4) connecting the load between terminals 4 and 5
- 12 Vdc (20 mA) transmitter power supply connecting the transmitter between terminals 4 and 1

\*: For servomotor drive: OUT2 = open, OUT3 = close.

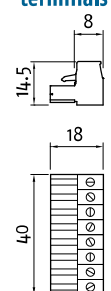


#### Dimensions (mm)

##### Instrument with non-removable terminals



##### Removable terminals





## HOW TO ORDER

### Order Code

<p><b>Model</b>  <b>KR5P</b> = Programmer + Controller 78 x 35 x 78  <b>KM5P</b> = Programmer + Controller 48 x 48 x 64  <b>KX5P</b> = Programmer + Controller 48 x 96 x 75.9</p>
<p><b>Power supply</b>  H = 100... 240 VAC  L = 24 VAC/DC</p>
<p><b>Analogue input + digital input Dh (standard)</b>  <b>C</b> = J, K, R, S, T, PT100, PT 1000 (2 wires), mA, mV, V  <b>E</b> = J, K, R, S, T, NTC, PTC, mA, mV, V</p>
<p><b>Output 1</b>  <b>I</b> = 0/4... 20 mA, 0/2... 10 V  <b>R</b> = Relay SPST 4 A resistive load (KR5P: relay SPDT 4A/240 Vac)  <b>O</b> = VDC for SSR</p>
<p><b>Output 2</b>  - = Not available  <b>R</b> = Relay SPST 2 A resistive load  <b>O</b> = VDC for SSR  <b>M</b> = Relay SPST 2 A (<b>servomotor drive only</b>)*</p>
<p><b>Output 3</b>  - = Not available  <b>R</b> = Relay SPST 2 A resistive load  <b>O</b> = VDC for SSR  <b>M</b> = Relay SPST 2 A (<b>servomotor drive only</b>)*</p>
<p><b>Input/Output 4</b>  <b>D</b> = Output 4 (VDC for SSR)/Transmitter Pws/Dig. Input DI2</p>
<p><b>Serial communication</b>  - = TTL Modbus  <b>S</b> = RS485 Modbus + TTL Modbus</p>
<p><b>Connection type</b>  - = Standard (non-removable screw terminal block)  <b>E</b> = With removable screw terminal block  <b>M</b> = With removable spring terminal block  <b>N</b> = With removable terminal block (fixed part only)</p>

\*: For servomotor drive, both **OUT2** and **OUT3** codes **must** be selected as "M".

### Mechanical characteristics

PARAMETER	
Housing	Self-extinguishing plastic UL 94 v0
Mounting	Front panel
Dimensions (L x A x P)	KR5P: 78 x 35 x 78 mm KM5P: 48 x 48 x 62 mm KX5P: 48 x 96 x 75.9 mm
Panel cut-out	KR5P: 71 x 29 mm (-0... +0.6 mm) KM5P: 45 x 45 mm (-0... +0.6 mm) KX5P: 45 x 89 mm (-0... +0.6 mm)
Weight	KR5P: 140 g approx. KM5P: 120 g approx. KX5P: 160 g approx.
Terminals	16 terminals (24 for the KR5P) for cables from 2.5 mm <sup>2</sup> (AWG22... AWG14): - on fixed or removable terminal block with screw terminals; - on removable terminal block with spring-load terminals
Protection degree	IP 65 panel mounted with gasket (IP20 for screw terminals) In conformity with En 60070-1 (internal use only)