

DAQP-THERM

- Thermocouple:
- Bandwidth:
- Isolation:
- Signal connection:

Isolated thermocouple module

- K, J, T, R, S, N, E, B, L, C, U (others on request)*
- 3 kHz*
- 1 kV_{RMS}*
- Universal miniature thermocouple connector*



Module specifications

DAQP-THERM	
Thermocouple types:	K, J, T, R, S, N, E, B, L, C, U, others on request
Ranges:	Min. to max. of the input range is free programmable within the full thermocouple input span
CJC absolute accuracy:	±0.2 °C
CJC stability:	0.01 °C/°C ambient temperature change
Linearization:	DSP based linearization
Accuracy:	Typical 0.3° for type K including CJC error; details see table „Input ranges and detailed specifications for thermocouple“.
Nonlinearity:	> 0.01°C
Input resistance:	> 1 MOhm
Bandwidth (-3 dB):	3 kHz
Filters:	3 Hz, 10 Hz, 30 Hz, 100 Hz, 300 Hz, 1 kHz
Filter characteristics:	Butterworth or Bessel, 2nd, 4th, 8th order programmable
Isolation:	±1000 V _{RMS} continuous (for input excitation and TEDS interface)
Typ. CMRR @ 3kHz:	>160 dB
Open thermocouple detection:	100 MΩ pull up; software selectable
Output voltage:	±5 V; 0 to 5 V; (±10 V and 0 to 10 V with special DEWE-30)
Output resistance:	100 Ohm
Output protection:	Continuous short to ground
RS-485 interface:	Yes
Power supply voltage:	±9 V _{DC} (±1 %)
Power consumption:	Typical 1 W
Connector:	Universal mini thermocouple connector

Input ranges and detailed specifications for thermocouple

Thermocouple									
Type	Standard	Input range		Accuracy					100 °C to fullscale [% of reading + °C]
		min [°C]	max [°C]	-270 to -200 °C [°C]	-200 to -100 °C [°C]	-100 to 0 °C [°C]	0 to 100 °C [°C]	100 °C to fullscale [% of reading + °C]	
K	DIN EN 60584-1	-270	1372	6.70	0.70	0.35	0.26	0.027	0.26
J	DIN EN 60584-1	-210	1200	0.68	0.60	0.32	0.25	0.019	0.25
T	DIN EN 60584-1	-270	400	4.37	0.69	0.37	0.26		0.23
R	DIN EN 60584-1	-50	1760			0.85	0.59	0.009	0.44
S	DIN EN 60584-1	-50	1760			0.77	0.58	0.012	0.45
N	DIN EN 60584-1	-270	1300	9.14	0.77	0.37	0.28	0.017	0.27
E	DIN EN 60584-1	-270	1000	4.25	0.60	0.33	0.24	0.018	0.23
L	DIN 43710	0	900				0.25		0.33
C	ASTM E988-96	0	2310				0.36	0.045	0.33
U	DIN 43710	-200	600		0.64	0.37	0.26		0.24
B	DIN EN 60584-1	0	1820				0 to 500 °C 10	>500 °C	0.44