

DESCRIPTION OF OUTPUT CONNECTOR PLD-10

Contact	Name	Comments
1	+ 5 V	Power input +5V ± 0.25V, 300mA max, ripple 10mV max within 0-1MHz
2 - 6	—	Reserved
7	KEY	Shortened pin
8	GND	Power return line, ground
9	RS232 TXD	Digital output RS232
10	D_GND	Digital ground, connected to "GND"

MAIN PARAMETERS (typical values)

- ◆ Rate range 60 deg/s
- ◆ Scale Factor (SF) 20 mV/deg/s
- ◆ Angle random walk 0.007 deg / \sqrt{h}
- ◆ Bias stability, RMS 1 deg / h
- ◆ SF stability, RMS 0.1 %
- ◆ Readiness time 1 s

ENVIRONMENT

- ◆◆◆ Temperature operating -30°C ... +70°C
- ◆◆◆ endurance -55°C... +75°C
- ◆◆ Vibration (operating), RMS 2 g, 20Hz... 500Hz
- ◆◆ Vibration (endurance), RMS 6 g, 20Hz... 2000Hz
- ◆◆ Shocks (endurance) 90 g, 1 ms
- ◆◆ Acceleration (operating) 5 g
- ◆◆ Acceleration (endurance) 20 g, 5 s

RELIABILITY

- ◆◆◆ MTBF 60000 hours (20°C, predicted)
- ◆◆◆ Lifetime (predicted) 15 years
- ◆◆ Precision class - ④
- ◆◆ Estimated for low humidity
- ◆◆◆ Operating temperature - temperature of built-in temperature sensor (see table 2)
- ◆◆◆ Endurance temperature - environment temperature. Sensor is turned off.

OUTLINE DRAWING

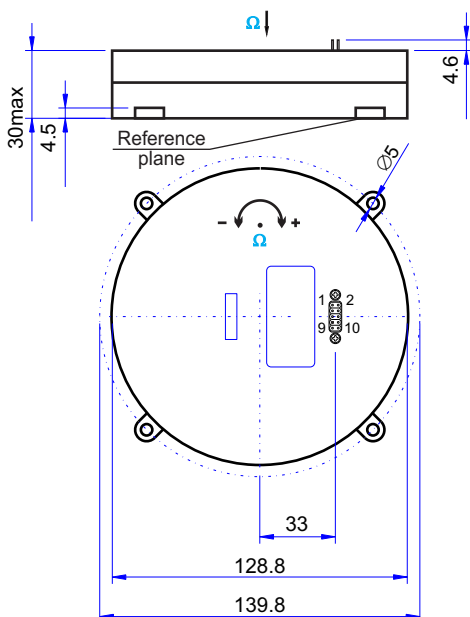


Table 1. Digital data format and data block content

SOD (1 byte)	Start of Data	DD hex
Data Block (5 bytes)	1 st byte	RATE lowest byte (L)
	2 nd byte	RATE highest byte (H)
	3 rd byte	RATE middle byte (M)
	4 th byte	COUNTER status
	5 th byte	some of Xdata
LCC (2 bytes)	Lower 2 bytes of sum of Data Block	
Total - 8 bytes		

Table 2. X data content

Counter	Byte	Xdata
00	H	Temperature (C)
01	L	HL250 / 2 ¹⁵ - 50
02	H	Supply voltage (V)
03	L	HL2.5 / 2 ¹⁵ / 0.25
04	H	Consumption current (A)
05	L	HL2.5 / 2 ¹⁵ / 10
06...0F		Reserved

RECOMMENDATIONS AND PRECAUTIONS

1. Do not deform housing
2. Fragile components inside - no shocks, no drop
3. Treat as electrostatic sensitive unit
4. Is designed to be mounted inside water protected equipment
5. Increased humidity shortens essentially lifetime
6. Power must be off during connecting
7. Soldering to contacts - by low-temperature solder

PHYSICAL PARAMETERS

1. Ω - sensing axis, 90° ± 0.5° to the reference plane
2. Dissipation - 1 W
3. Weight - 240 gram (300 gram max)
4. Volume - 0.4 litre
5. Housing material - plastic
6. Tolerances per ISO 2768-m
7. Ingress protection class - IP67

DIGITAL OUTPUT

1. Asynchronous RS232 port, 8 bit data, 1 stop bit, no parity control.
2. Transmission rate (default) - 115 kBod (repetition rate ~ 1.2 kHz).
Option: - 38 kBod (repetition rate ~ 0.3 kHz).
3. Sensor output voltage = 2.5 RATE / 2²³ V, RATE is a binary complementary 24-bit word (see Table 1).
4. Additional data (Xdata) - temperature (taken from AD TMP36 sensor), supply voltage, consumption current. These data (16 bits each) are transmitted in series of 16 sendings according to the status of COUNTER (see Table 2).