

DESCRIPTION OF OUTPUT CONNECTOR PLD-10

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

MAIN PARAMETERS ( typical values )

- ◆ Rate range 60 deg/s
- ◆ Scale Factor (SF) 20 mV/deg/s
- ◆ Frequency range 0... 0.45 kHz
- ◆ Angle random walk 0.01 deg / √h
- ◆ Bias stability, RMS 1 deg / h
- ◆ SF stability, RMS 0.1 %
- ◆ Readiness time 0.1 s

ENVIRONMENT

- ◆◆◆ Temperature operating -40°C ... +70°C
- ◆◆◆ Temperature endurance -55°C... +75°C
- ◆◆ Vibration, RMS 6 g, 20Hz... 2000Hz
- ◆◆ Shocks 90 g, 1 ms
- ◆◆ Acceleration 5 g

◆◆ 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
- ◆◆◆ Endurance temperature - environment temperature. Sensor is turned off.

OUTLINE DRAWING

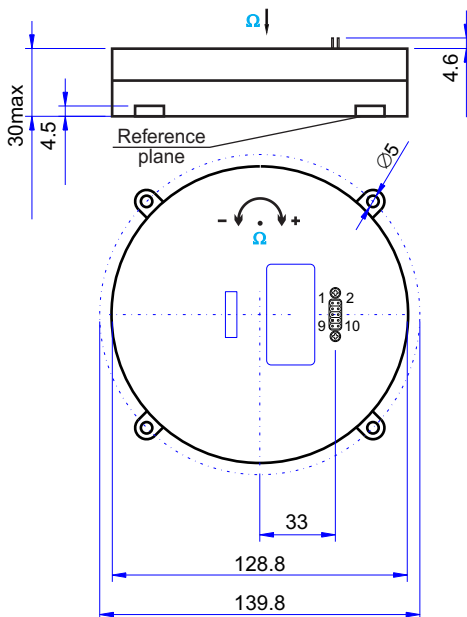


Table 1. Digital data format and data block content

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

Table 2. X data content

Counter	Byte	Xdata
00	H	Temperature (C)
01	L	HL250 / 2 <sup>15</sup> - 50
02	H	Supply voltage (V)
03	L	HL2.5 / 2 <sup>15</sup> / 0.25
04	H	Consumption current (A)
05	L	HL2.5 / 2 <sup>15</sup> / 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 / 2<sup>23</sup> 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 ).