MPM4710 Recording Transmitter

Features

- The latest microprocessing technique; better accuracy and resolution for pressure and temperature signals; digital compensation for both linearity and temperature error of pressure sensor;
- Good data security due to nonvolatile memory units;
- Single 3.6V/2400mAh Lithium cell for power supply; low current ≤30uA for Standby Mode; long-term collection available;
- Full stainless steel housing; multi-track O-ring sealing; easy to change battery and read data;
- Complete recording to pressure, temperature and the happening time;
- Flexible recording time setting, the min. 1s, the max. 255 hours 59 minutes 59 seconds;
- The max. 50,000 recording;
- Bus line RS485 protocol; freely wake up transmitter to set and read pressure value, temperature value and recording;
- Factory setting restore available, could reduce cost when the user makes incorrect setting or maintenance;
- High stable design, use hardware watch-dog and multi-track sofeware inspection to reduce system halted;
- Protection class IP68, long-term submersible application available;
- High accuracy class at wider temperature range -30℃ ~80℃

Introduction

MPM4710 Recording Transmitter is able to be widely used in petroleum, chemi-industry, power station, water conservancy, city flood control and city water supply and drainage, etc. It is supplied by battery, could work without manual control. The transmitter could record level or pressure change continuously. By setting proper data collection interval, the transmitter could record from several days to several years. Very low power consumption is another advantages, one AA baterry 3.6V/2400mAh could work many years continuously. MPM4710 has an absolute pressure sensor inside, to measure lower level, please be careful for atmosphere change. We suggest to install a barameter or another MPM4710 Recording Transmitter to record air pressure. And then calculate two pressure difference of two instruments by computer, that is the final level value; Please pay attention that get MPM4710 back from the measurement point, then remove end cap and read record through data interface.

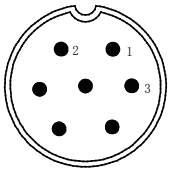
Specification

Pressure range	0~0.1…1.1MPa(Absolute)
Overpressure	2×pressure range
Power supply	Cylinder 3.6V/2400mAh Lithium cell
Output signal	RS485 digital
Environment temp.	-30℃ ~80℃
Error[1]	-10℃ ~40℃ 0.10%FS(typ.) 0.2%FS(max.) -30℃ ~80℃ 0.15%FS(typ.) 0.3%FS(max.)
Stability	<0.2%FS/year (typ.)
Resolution	0.01%FS
Temperature resolution	0.1℃ (-30℃ ~80℃)
Temperature accuracy	±1℃
Record interval	1s~255 hours 59 minutes 59 seconds (1s~10 days 15 hours 59 minutes 59 seconds)
Record data quantity	Recording stops when the records are 50,000 (including date, time, temperature and pressure)
Static current	(no collection, no recording, no communication)<30uA
Battery life	Typ. (once per hour)about 7 years
Construction material	Housing: SS 316L O-ring: Viton
Protection class	IP68
Others	Weight: about 500g Resolution: 100MΩ/50V Shock: 20g 20~5000Hz Impact: 20g 11ms

1.Error calculation: the absolute value of max. error at working temperature and pressure.

Electrical Connection

Aviation plug electrical connection:

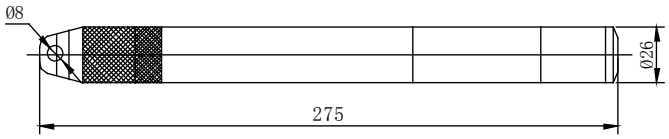


The end side of transmitter

Pin	Electric
1	RS485A
2	RS485B
3	GND
Other pin is null	

Pin 3 connects to GND of circuit inside. Generally, it can only connect to RS485A and RS485B. If RS485 communication has big disturbing, please connect to GND.

Construction Outline



Application Example

By software, users could calibrate transmitter zero, check battery, set data collection interval, read record and get temperature data and so on.

Order Guide

MPM4710	Recording Transmitter			
	Range	Pressure range: kPa/MPa		
	(0~X) kPa	0~0.1…1.1MPa(absolute)		
		Code	Output signal	
		R4	RS485 interface	
			Code	Others
			A	Absolute
MPM4710	(0~600)kPa	R4	A	the whole spec

Notes

The basic transmitter measurement is absolute, please be careful that not to connect to power and cable when transmitter is not working. Please pay attention, if the atmosphere has big influence for measurement, please select a Pressure Recording Instrument, and use both two instruments together.