ER-OS-07 High Precision Directional Sensor

Introduction:

The ER-OS-07 High Precision Directional Sensor is designed to enable high accuracy measurement of the tool face (roll), inclination and azimuth orientation angles in borehole logging and drilling applications.

The product consists of a 3-axis flux-gate magnetometer and a 3-axis accelerometer. It is powered by a wide DC voltage of 10V~36V and is digitally transmitted through a UART asynchronous transmitter. ER-OS-07 has a temperature compensation function, which can make the system reach the accuracy of ±0.1°, tool face ±0.1° and azimuth angle ±0.3°.

The maximum transmission rate of the magnetometer and accelerometer output is 6 times per second, and the direction angle is 4 times per second. ER-OS-07 communicates with the outside world through the UART interface. The operator can change the baud rate by setting the data bit in E2 PROM.

You can choose between two communication protocols according to specific requirements:

(1) Binary system: In this system, the user needs to send a data request and DS750 responds with multiple data packets.

(2) ASCII: The ASCII protocol obtains data by sending ASCII characters to ER-OS-07. The data returned by ER-OS-07 is transmitted in ASCII data stream, so it can be easily displayed on the video terminal.

Features:

Temperature: 0~150℃

Accurate measurement under strong vibration environment with 16g peak value (20Hz~100Hz)

Shock resistance 1000g, vibration resistance 20grms

Digital data transmission

With minimum size of Φ31mm×384mm (customized to different needs)

Application:

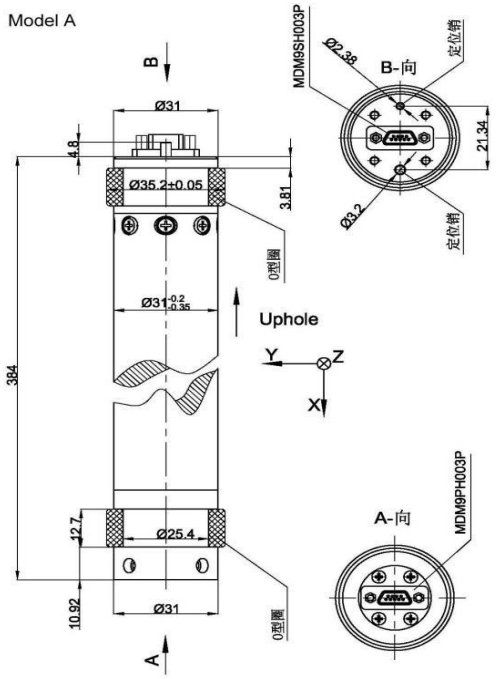
Directional drilling, geological steering

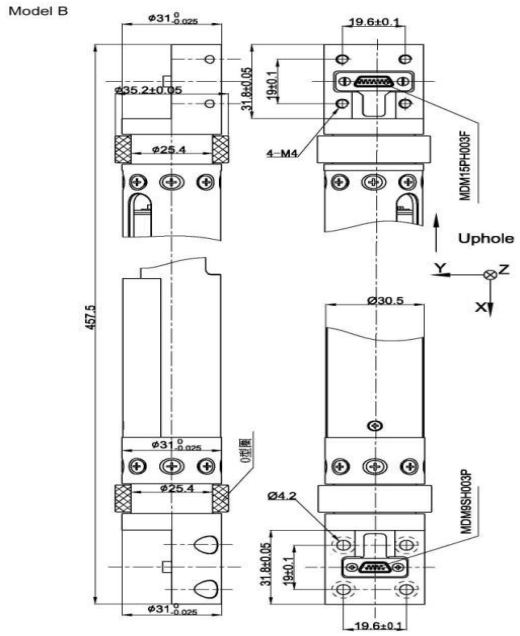
MWD/LWD

Specifications

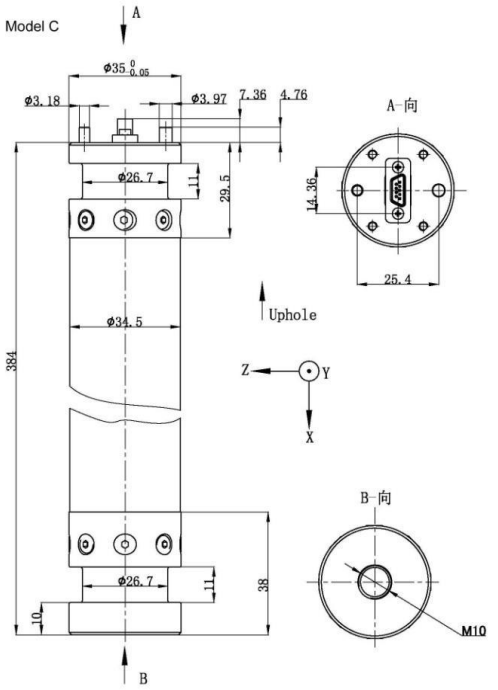
Inclination	±0.1°
Toolface	±0.1°
Azimuth	±0.3°@90°
	±1°@10°
	±2°@5°
Electrical interface	
Input voltage scope	10V~36V
Input current	75mA@±15V
Logical level	TTL/CMOS
Baud rate	9600(default) maximum to 115200
Communication proposal	ASC Ⅱ or binary
Working temperature	
Temperature compensation scope	0~150℃
Storage temperature scope	-40℃~160℃
Shock	1000G, 0.5MS
Vibration while drilling	20g

Outline parameters	
Diameter	31mm
Length	384mm
Connector	MDM9SH003P (MDM15PH003F)
Matching connector	MDM9PH003L (MDM15SH003L)





Model C



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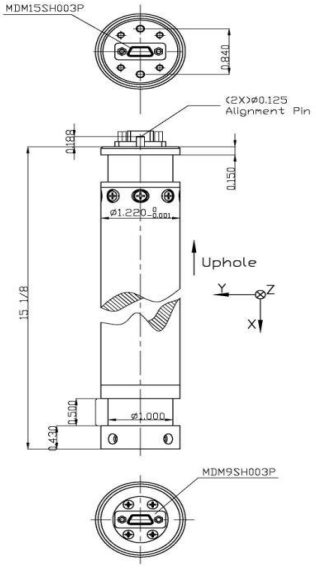
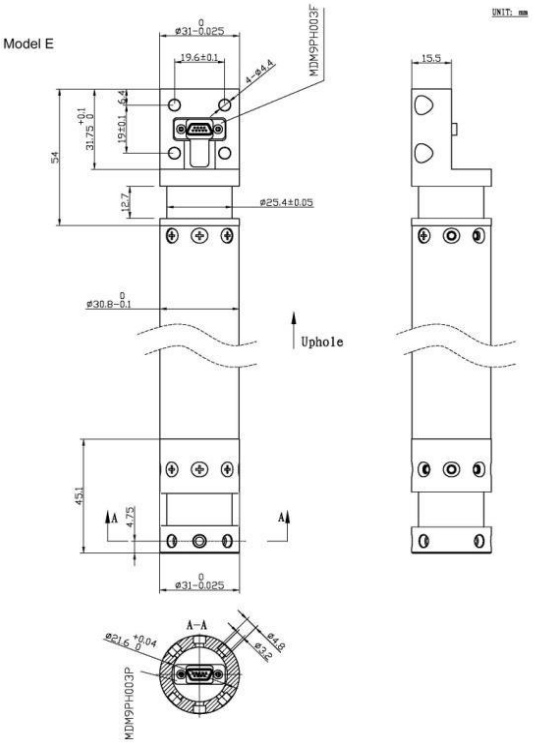
Model E