



Expert 1400

HYDROSTATIC LEVEL TRANSMITTER

2.76

General

MJK Expert™ 1400 Hydrostatic level transmitter has a ceramic capacitive measuring system and built-in breather tube for direct air pressure compensation. It is designed for use in water applications where improved accuracy for both high and low measuring ranges are requested.

Also, Expert™ 1400 is approved for use in explosion hazardous areas - UL Class 1, Division 1, Group A-D.

Therefor, Expert™ 1400 is very useful for level measurements in, for example, ground water bore holes and in-fill sites where explosion proof transmitters are required.

When using Expert™ 1400 in explosion hazardous environments, an isolator or a zener barrier must be used.

Features

- Ceramic diaphragm, AISI 316L body
- Surge resistance
- 2-wire 4-20 mA loop powered, 10-30VDC
- Accuracy better than $\pm 0.1\%$ and stability 0.1 % per year
- Programmable zero point and span with flexible measuring ranges
- Measuring ranges from 0-1 ft. to 0-1000 ft.

Applications

- Ground water bore holes
- In-fill sites
- Approved for mounting in explosion hazardous areas.



DATASHEET

US 2.76 Expert 1400 datasheet 1810

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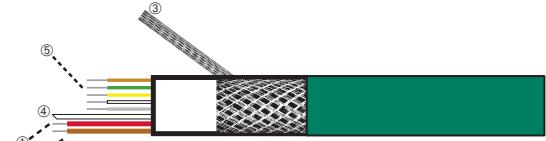
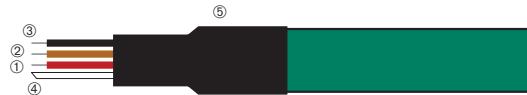
Expert 1400 Hydrostatic Level Transmitter

Specifications

Expert 1400 Level Transmitter								
Nominal Measuring Range	0-1 ft.	0-5 ft.	0-10 ft.	0-15 ft.	0-30 ft.	0-100 ft.	0-300 ft.	0-1000 ft.
Measuring principle	Ceramic capacitive, relative pressure							
Min. programmable range	0-9 ft.	0-9 ft.	0-3 ft.	0-9 ft.	0-9 ft.	0-30 ft.	0-90 ft.	0-300 ft.
Max. programmable range	0-3 ft.	0-3 ft.	0-10 ft.	0-30 ft.	0-30 ft.	0-100 ft.	0-300 ft.	0-1000 ft.
Max. overpressure	75 psi	75 psi	100 psi	150 psi	150 psi	275 psi	600 psi	600 psi
Temperature range	-5 °F to 105 °F							
Temp. deviation, zero point	Better than $\pm 0.01\% / ^\circ F$							
Temperature deviation, FS	Better than $\pm 0.005\% / ^\circ F$							
Linearity / Stability	Better than $\pm 0.2\% FS / \pm 0.2\% FS$							
Measurement accuracy	Better than $\pm 0.1\% FS @ 50$ to $85 ^\circ F$ Better than $\pm 0.2\% FS @$ full temperature range							
Long time stability	Better than $\pm 0.1\% FS$ per year							
Materials	Housing: stainless steel (AISI 316 L), Diaphragm: 96,6 % Al ₂ O ₃ /Cell Packing: Viton®							
Supply voltage	10 - 30 V DC (12 - 30 V DC for cable lengths above 315 ft.)							
Output signal	2-wire 4 - 20 mA (passive transmitter)							
Cable	2 x AWG 20 (pressure) + 5 x AWG 25 (data), shielded, PUR insulation							
Cable length	39 ft.	39 ft.	39 ft.	39 ft.	39 ft.	114 ft.	361 ft.	1030 ft.
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure.							
Safety Approvals	UL® Class I, II and III, Division 1 Hazardous (Classified) Locations, UL 913 ATEX: II 2G EEx ia IIC T4...T6							
Test Approvals	CE directive: 89/336/EEC, 2004/108/EC, 1999/EC EN 61326-1, 61326-2-3, EN 55011, 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-8 EN 61000-6-4 2007-02-19, EN 61000-6-2 2005-09-08,							

① The cable length may be extended by using the transmitter connection box (202922) and twisted shielded pair wire.

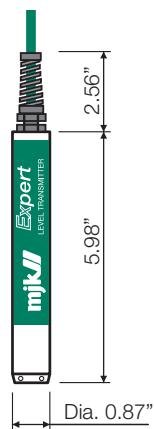
Electrical Connections



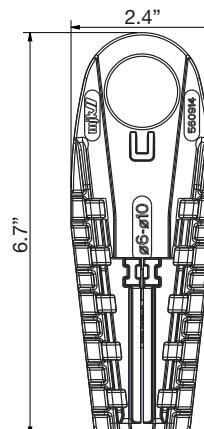
Designations		
1	Red	Positive (+) wire
2	Brown	Negative (-) wire
3	Black	Shield (NOT signal ground!)
4	Tube	Air pressure compensation tube and Moisture filter
5	Hidden	Programming wires

⑤ Programming	
Green	CS (Chip Select)
Brown	GND
Yellow	Data In
White	Clk
Grey	Data Out

Dimensions



M IK Expert™ 1400 level transmitter



Mounting bracket for M IK Expert™ 1400 level transmitter

Expert 1400 Hydrostatic Level Transmitter

Accessories



Expert Link is free of charge.

Link to download center on www.mjk.com.



Expert Link Software



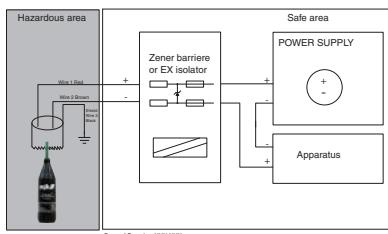
840100 Expert Link for Windows for support of the Expert series. Use with 203990 PC (USB) Interface. Information (pressure- and temperature range, version of software etc.):

- Indication of actual pressure value and adjusting measuring ranges
- Selection of units
- Setting of a new zero and gain for the transmitter
- Reprogramming of the analog output (i.e. different unit, other pressure range)
- Setting of the instrument address (for Bus-operation and real-time value).

203992 PC Interface used for connecting Expert Hydrostatic Level Transmitters to a PC using Expert Link.



202993 Isolator, an integrated unit including active components with low power consumption. A power supply provides power to the pressure transmitter through a galvanic separator so that neither current nor voltage exceeds the specified values. A ground connection is not required.



202995 Zener barrier, a passive unit requiring a safe grounding connection based on ATEX regulations. The Zener barrier contains a number of Zener diodes for voltage protection. A safety fuse will blow if the current exceeds the limits. A Zener barrier requires a safe ground connection.



202922 Transmitter connection box NEMA 6 enclosure for a safe connection of 4-20 mA cables.®



200126 Field indicator 531, display insert, 4-20mA loop powered, NEMA 6 enclosure. For instant local readout.®



200117 Rainroof/Sun Shield for 531, weather protection for display and connection box.

® For a complete display you need both the 20016 531 display insert and the

Expert 1400 Hydrostatic Level Transmitter

Order Numbers

Expert™ 1400, Hydrostatic Level Transmitter	
MJK209911	Pressure Transmitter 1400, range 0-1 ft., 39 ft. cable
MJK209912	Pressure Transmitter 1400, range 0-3 ft., 39 ft. cable
MJK209913	Pressure Transmitter 1400, range 0-10 ft., 39 ft. cable
MJK209914	Pressure Transmitter 1400, range 0-15 ft., 39 ft. cable
MJK209915	Pressure Transmitter 1400, range 0-30 ft., 39 ft. cable
MJK209915-100	Pressure Transmitter 1400, range 0-30 ft., 100 ft. cable
MJK209915-150	Pressure Transmitter 1400, range 0-30 ft., 150 ft. cable
MJK209915-350	Pressure Transmitter 1400, range 0-30 ft., 350 ft. cable
MJK209915-500	Pressure Transmitter 1400, range 0-30 ft., 500 ft. cable
MJK209916	Pressure Transmitter 1400, range 0-100 ft., 114 ft. cable
MJK209916-150	Pressure Transmitter 1400, range 0-100 ft., 150 ft. cable
MJK209916-200	Pressure Transmitter 1400, range 0-100 ft., 200 ft. cable
MJK209916-250	Pressure Transmitter 1400, range 0-100 ft., 250 ft. cable
MJK209916-350	Pressure Transmitter 1400, range 0-100 ft., 350 ft. cable
MJK209916-500	Pressure Transmitter 1400, range 0-100 ft., 500 ft. cable
MJK209917	Pressure Transmitter 1400, range 0-300 ft., 361 ft. cable
MJK209918	Pressure Transmitter 1400, range 0-1000 ft., 1030 ft. cable

Order Numbers Accessories

Expert™ 1400, Hydrostatic Level Transmitter Accessories	
MJK200117	Rainroof/Sun Shield for 531, display and connection box
MJK200126	Field indicator 531, display insert, 4-20mA loop powered
MJK202922	Transmitter connection box
MJK202993	Loop supplied Ex-isolator for DIN rail mounting
MJK202995	Zener barrier for hydrostatic transmitter 9002/13-280-110-00
MJK203990	PC Interface (USB) for Expert™ Transmitter 1400/3400
MJK560914	Plastic Mounting Bracket for Expert™ Transmitter, cable Ø6-10mm
MJK691075-FT	Communication Cable 2x2x0.5mm2 (AWG24) shielded twisted pair

