

Expert 7070

HYDROSTATIC LEVEL TRANSMITTER

2.74

General

The MJK Expert™ 7070 Level Transmitter has a small external diameter and is made of 316L stainless steel.

The transmitter is designed for measuring levels and temperature in wells and drinking water tanks.

The MJK Expert™ 7070 is an accurate 2-wire transmitter with a piezoresistive measuring system with direct air pressure and temperature compensation.

MJK Expert™ 7070D hydrostatic digital/analog level transmitter is a precision transmitter with built-in Modbus protocol for measurement readout and remote calibration during operation. It is developed for low-energy installations and hook-up with MJK Chatter™ Datalogger.

Features

- Stainless steel diaphragm, steel AISI 316L body
- 2-wire 4 - 20 mA loop powered, 10-30VDC
- Low voltage versions digital RS485 supply voltage 3,6-30V DC
- Very low drift (<0.5%) and high accuracy ($\pm 0.25\%$) year after year
- Field re-programmable for custom ranges and zero offset calibration
- Measuring ranges from 0 - 3 m to 0 - 300 m

Applications

- Process water
- Drinking water
- Ground water bore holes
- Reservoirs



DATASHEET

EN 2.74 EXPERT 7070 DATASHEET 1412

mjk
a xylem brand

Expert 7070 Level Transmitter

Specifications

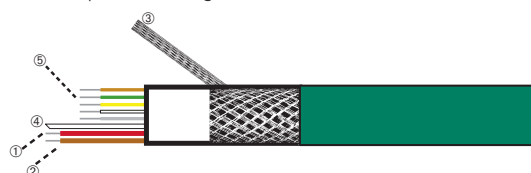
Expert 7070 Level Transmitter				
Nominal measuring range	0 - 3 m	0 - 10 m	0-30 m	0-100 m
Measuring principle	Piezo-resistive (relative pressure)			Sealed Gate (SG)
Min. programmable range	0 - 2 m	0 - 4 m	0 - 12 m	0-30 m
Max. programmable range	0 - 4 m	0 - 12 m	0 - 60 m	0 - 100 m ^②
Non-standard range	Min. 0 - 2 m / Max. 0 - 300 m			
Max. overpressure	3 bar	3 bar	11 bar	20 bar
Temperature range	-10 °C to 65 °C			
Temp. deviation, zero point	Better than ± 0.02 % / °C			
Temp. deviation, Full range	Better than ± 0.02 % / °C			
Linearity / Stability	Better than ± 0.5 % FS / ± 0.1 % FS			
Measurement accuracy	Better than ± 0.25 % FS @ +10 to 30 °C Better than ± 0.5 % FS @ full temperature range			
Long time stability	Better than ± 0.5 % FS per year			
Materials	Housing and Diaphragm: Stainless steel (1.4404 / AISI 316 L)			
Supply voltage	7070/T	10 - 30 V DC (12 - 30 V DC for cable lengths above 100 m)		
	7070D	3,6 - 30 VDC/ RS485		
Output signal	7070/T	2-wire 4 - 20 mA (passive transmitter) / PT100		
	7070D	Digital signal : RS485 Modbus level- and temperature transmitter signal. Analog signal: 2-wire, 0.1 - 2.5 VDC		
Build-in sensor	PT-100			
Cable	2 × 0,5 mm ² (pressure) + 5 × 0,15 mm ² (data), shielded, PUR insulation			
Cable length ^①	12 m	12 m	35 m ^②	110 m ^②
Enclosure	IP 68, withstands a static pressure equal to max. overpressure			
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 Can be delivered with other cable lengths on request. ^② Can be delivered with up to 300m. range.

Electrical Connections



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

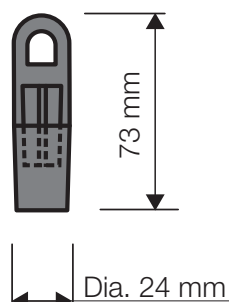
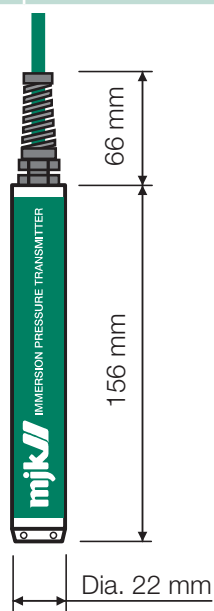


⑤ Programming 7070	
Green	N/C
Brown	N/C
Yellow	RS485 B
White	N/C
Grey	RS485 A

⑤ Programming 7070T	
Green	Temperature
Brown	Temperature
Yellow	Passive 4-20 mA output (+)
White	Temperature
Grey	Passive 4-20 mA output (-)



Dimensions



Mounting bracket for MJK Expert™ 7070 level transmitter

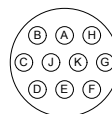
Expert 7070 Level Transmitter

7070D Connector

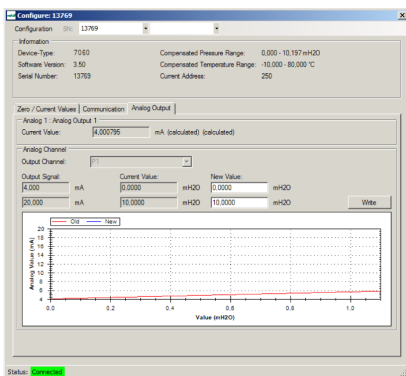
Wire color and connector pin coding

Color	Pin	Connection
Yellow	D	RS 485 B
Grey	E	RS 485 A
Brown	K	GND (ground)
White	B	n/c (signal 0,1-2,5 / 0,3-3,0 V DC)
Red	G	+5/10/15V (3,6 -30 V DC)
Black	F	n/c (shield)

Connector pins



Read Link Software



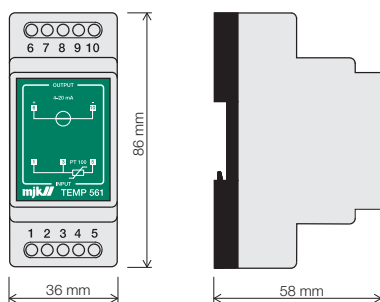
Available from download center

840101 For support of the Expert 7060-7070, use with 203992 PC (USB)Interface For Win XP-7

Information (pressure- and temperature range, version of software etc.)

- Indication of actual pressure value
- Selection of the 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)
- Data collection with graphs
- Fast read-out and viewing of the pressure signals in a graph

561 Temperature Transmitter dimensions



Accessories



202922 Transmitter connection box IP 67 enclosure for a safe connection of 4-20 mA cables

200126 Field indicator 531, display insert, 4-20mA loop powered, IP65 enclosure. For instant local readout.

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

Expert 7070 Level Transmitter

Order Numbers

Expert™ 7070, Piezo Resistive, Hydrostatic Level Transmitter	
202950	Hydrostatic transmitter 7070-1413 range 0-3m
202955	Hydrostatic transmitter 7070-1423 range 0-10m
202960	Hydrostatic transmitter 7070-1433 range 0-30m

Expert™ 7070T, Piezo Resistive, Hydrostatic Level Transmitter With Built-In PT100 Sensor	
202951	Hydrostatic transmitter 7070-1413-T range 0-3m, PT100
202956	Hydrostatic transmitter 7070-1413-T range 0-10m, PT100
202961	Hydrostatic transmitter 7070-1413-T range 0-30m, PT100

Expert™ 7070D, Piezo Resistive, Hydrostatic Level Transmitter Digital RS485/Low Voltage	
203781	Hydrostatic transmitter 7070D range 0-3m digital/analog
203782	Hydrostatic transmitter 7070D range 0-10m digital/analog
203783	Hydrostatic transmitter 7070D range 0-30m digital/analog
203784	Hydrostatic transmitter 7070D range 0-3m with connector digital/analog
203785	Hydrostatic transmitter 7070D range 0-10m with connector digital/analog
203786	Hydrostatic transmitter 7070D range 0-30m with connector digital/analog
203791	Hydrostatic transmitter 7070D (SG) range 0-100m (0-10bar) digital/analog
203792	Hydrostatic transmitter 7070D (SG) range 0-300m (0-30bar) digital/analog
203793	Hydrostatic transmitter 7070D (SG) range 0-100m (0-10bar) w. connector d/a

Order Numbers Accessories

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200117	Rainroof/Sun Shield for 531, Display and connection box
202920	Cable length, not standard
202922	Transmitter connection box
202925	Not standard measuring range
560916	Mounting Bracket for Expert™ 1100, 1400, 7030, 7070
691008	Cable for Expert™ 1100, 7070 w/o tube (SG) PUR
691005	Cable for Expert™ 1100, 1400, 7070, UL approved, PUR
203992	PC Interface (USB/RS485) for Expert 7070
203220	561 Temp. transmitter 0-50°C (see datasheet 4.40)