

Expert™ 3400

HYDROSTATIC LEVEL TRANSMITTER

2.77

General

The MJK Expert™ 3400 hydrostatic level transmitter is accurate and has long term stability. It is very robust and designed for applications in rough environments with aggressive chemicals and fluids.

The Expert™ 3400 with ceramic capacitive measuring system and built-in breather tube for direct air pressure compensation is designed for use in waterworks, sewage treatment plants and industrial applications.

The Expert™ 3400D is a variant of the 3400. It is also designed with a built-in breather tube and RS485 communication. This makes the transmitter perfect for low energy installations connected to a Chatter data logger or ModBus networks.

A major design feature is the programming facility. Using a standard USB interface and a laptop computer, the servicing transmitter can be programmed on-the-fly to the required measuring range.

The design without sharp edges prevents particles, textiles and paper from sticking to the housing or the diaphragm.

Features

- Ceramic diaphragm, PPS body,
- 2-wire 4 - 20 mA loop powered, 10-30VDC
- Surge resistance
- Accuracy better than $\pm 0.1\%$ and stability 0.1 % per year
- Field re-programmable for custom ranges and zero offset calibration
- Steel reinforced PUR cable with high tensile strength (1000kg)
- Measuring ranges from 0 - 0,3 m to 0 - 300 m.

Applications

- Waste water
- Process water
- Chemical tanks with a range of acids, bases and ferric chloride
- Approved for mounting in explosion hazardous areas.



DATASHEET

EN 2.77 EXPERT 3400 DATASHEET 1907



mjk
a xylem brand

Expert™ 3400 Level Transmitter

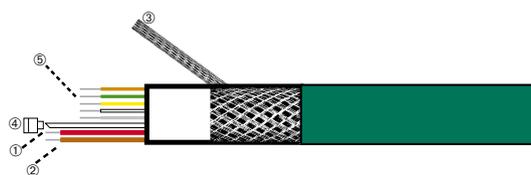
Specifications

Expert™ 3400 Level Transmitter									
Nominal measuring range	0-0,3 m	0-1 m	0-3 m	0-5 m	0-10 m	0-30 m	0-50m	0-100 m	0-300 m
Measuring principle	Ceramic capacitive, relative pressure							Ceramic cap., sealed gate	
Min. programmable range	0-0,3 m	0-0,3 m	0-1 m.	0-3 m	0-3 m	0-10 m	0-30 m	0-50 m	0-90 m
Max. programmable range	0-1 m	0-1 m	0-3 m	0-10 m	0-10 m	0-30 m	0-50 m	0-100 m	0-300 m
Max. overpressure	4 bar	4 bar	6 bar	10 bar	10 bar	18 bar	40 bar	40 bar	40 bar
Temperature range	-10 °C to 70 °C								
Temp. deviation, zero point	Better than ± 0.02 % / °C								
Temperature deviation, FS	Better than ± 0.01 % / °C								
Linearity / Stability	Better than ± 0.2 % FS / ± 0.2 % FS								
Measurement accuracy	Better than ± 0.1 % FS @ +10 to 30 °C Better than ± 0.2 % FS @ full temperature range								
Long time stability	Better than ± 0.1 % FS per year								
Materials	Housing: PPS 40% glas-reinforced Diaphragm: Ceramic 99.9% AL ₂ O ₃ Cell packing: Viton®								
Supply voltage	3400	10 - 30 V DC (12 - 30 V DC for cable lengths above 110 m)							
	3400D	10 - 28 V DC							
Output signal	3400	2-wire 4 - 20 mA (passive transmitter) / ModBus RS485							
	3400D	Digital signal: RS485 Modbus level- and temperature transmitter signal							
Cable	2 × 0,5 mm ² (pressure) + 5 × 0,15 mm ² (data), shielded, PUR insulation, 1000 kg pull strength								
Cable length ^①	12 m	12 m	12 m	12 m	12 m	35 m	55 m	110 m	320 m
Enclosure	IP68, withstands a static pressure equal to max. overpressure.								
Safety approvals		UL® Class I, II and II, Division 1 Hazardous (Classified) Locations, UL 913 ATEX: II 2G EEx ia IIC T4...T6. NB: Only applies to 3400							
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,								

^①Can be delivered with other cable lengths on request.

Relative pressure transmitters can be delivered with up to 60 m cable length.

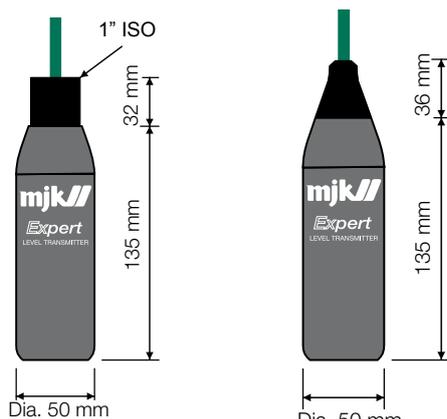
Electrical Connections



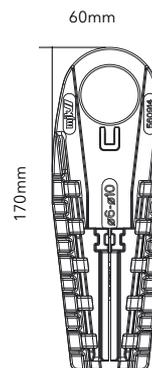
Designations		
1	Red	Positive (+) wire
2	Brown	Negative (-) wire
3	Black	Shield (NOT signal ground!)
4	Tube	Air pressure compensation tube and Moisture filter
5	Hidden	Programming wires

Programming (5)	3400	3400D
Green	CS (Chip Select)	N/C
Brown	GND	N/C
Yellow	Data In	RS485B
White	CLK	N/C
Grey	Data Out	RS485A

Dimensions



MJK Expert™ 3400 Level Transmitter



560914 Plastic mounting bracket for MJK Expert™ 3400 Level Transmitter (1 pcs. is delivered with each transmitter)

Expert™ 3400 Level Transmitter

Accessories



Expert Link software

840100 Expert Link for Windows for support of the Expert™ series. Use with 203990 (Expert™ 3400) or 203992 (Expert™ 3400D) PC (USB) Interface.

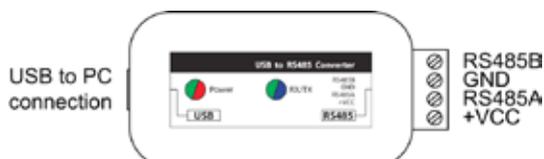
Information (pressure- and temperature range, version of software etc.):

- 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).

Expert Link is free of charge.
Link to download center on www.mjk.com.



NB: For Expert™ 3400 only: 203990 PC Interface used for connecting Expert™ Hydrostatic Level Transmitters to a PC using Expert Link.



NB: For Expert™ 3400D only: 203992 PC Interface used for connecting Expert™ Hydrostatic Level Transmitters to a PC using Expert Link.



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



200126 Field indicator 531, display insert, 4-20 mA loop powered, IP 65 enclosure. For instant local readout.Ⓞ

ⓄFor a complete display you need both the 200126 Field indicator 531 display insert and the 202922 Transmitter connection box.

Expert™ 3400 Level Transmitter

Order Numbers

Expert™ 3400, Capacitive Ceramic, Relative Pressure, 4-20 mA	
203951	Hydrostatic transmitter 3400 range 0-0,3m
203952	Hydrostatic transmitter 3400 range 0-1,0m
203953	Hydrostatic transmitter 3400 range 0-3,0m
203954	Hydrostatic transmitter 3400 range 0-5,0m
203955	Hydrostatic transmitter 3400 range 0-10,0m
203956	Hydrostatic transmitter 3400 range 0-30,0m
203957-REL	Hydrostatic transmitter 3400 range 0-50m relativ
203957	Hydrostatic transmitter 3400 (SG) range 0-100,0m
203958	Hydrostatic transmitter 3400 (SG) range 0-300,0m
203961	Hydrostatic transmitter 3400 range 0-0,3m w/thread
203962	Hydrostatic transmitter 3400 range 0-1,0m w/thread
203963	Hydrostatic transmitter 3400 range 0-3,0m w/thread
Expert™ 3400D, Capacitive Ceramic, Relative Pressure, Digital RS485/Supply 10-28VDC	
203972	Hydrostatic transmitter 3400D range 0-1m digital
203975	Hydrostatic transmitter 3400D range 0-10m digital
203977	Hydrostatic transmitter 3400D (SG) range 0-100m digital
203978	Hydrostatic transmitter 3400D (SG) range 0-300m digital
203972-C	Hydrostatic transmitter 3400D range 0-1m digital w/connector
203975-C	Hydrostatic transmitter 3400D range 0-10m digital w/connector
203977-C	Hydrostatic transmitter 3400D (SG) range 0-100m digital w/connector
203978-C	Hydrostatic transmitter 3400D (SG) range 0-300m digital w/connector

Order Numbers Accessories

Expert™ Hydrostatic Transmitter Accessories	
109113	MJK product test certificate. Must be requested upon order!
200126	Field indicator 531, display insert, 4-20 mA loop powered
202920①	Cable length, not standard
202922	Transmitter connection box
202924②	1" ISO thread for Expert™ 3400
202925	Not standard measuring range
202993	Loop supplied ex-isolator for DIN rail mounting
202995	Zener barrier for hydrostatic transmitter 9002/13-280-110-00
203990	PC Interface (USB) for Expert™ Transmitter 1400/3400
203992	PC Interface (USB/RS485) for Expert™ Transmitter 3400D/7060/7070
560914	Plastic mounting bracket for Expert™ transmitter, cable Ø6-10mm
561172	1" ISO Nut for sensor
691004①	Cable for Expert™ 3400 & 7060, PUR
840100	Expert Link

①MUST be ordered when ordering the Expert™ level transmitter, can only be mounted on factory.
 ②MUST be ordered when ordering the transmitter, the thread top can only be mounted on factory.