

Expert 3400

HYDROSTATIC LEVEL TRANSMITTER

2.77

General

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

The transmitter is accurate and has long term stability. It is very robust and designed for applications in rough environments with aggressive chemicals and fluids.

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 1707

mjk
a xylem brand

Expert 3400 Level Transmitter

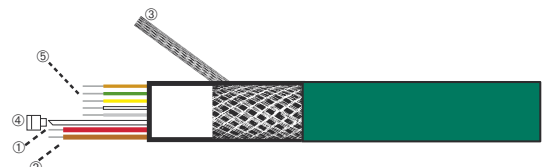
Specifications

Expert 3400 Level Transmitter									
Nominal measuring range	0-0,3 m	0-1 m	0-3 m \varnothing	0-5 m \varnothing	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	0-30m	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	0-50m	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 $\pm 0.02\%$ / °C								
Temperature deviation, FS	Better than $\pm 0.01\%$ / °C								
Linearity / Stability	Better than $\pm 0.2\%$ FS / $\pm 0.2\%$ FS								
Measurement accuracy	Better than $\pm 0.1\%$ FS @ +10 to 30 °C Better than $\pm 0.2\%$ FS @ full temperature range								
Long time stability	Better than $\pm 0.1\%$ FS per year								
Materials	Housing: PPS (Ryton) Diaphragm: Ceramic 99.9% Al_2O_3 Cell Packing: Viton®								
Supply Voltage	10 - 30 V DC (12 - 30 V DC for cable lengths above 110m)								
Output Signal	2-wire 4 - 20 mA (passive transmitter)								
Cable	2 x 0,5 mm ² (pressure) + 5 x 0,15 mm ² (data), shielded, PUR insulation, 1000kg pull strength								
Cable length	12 m \varnothing	12 m \varnothing	12 m \varnothing	12 m \varnothing	12 m \varnothing	35 m \varnothing	55 m \varnothing	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							
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,								

Can be delivered with other cable lengths on request.

① Relative pressure transmitters can be delivered with up to 60m cable length

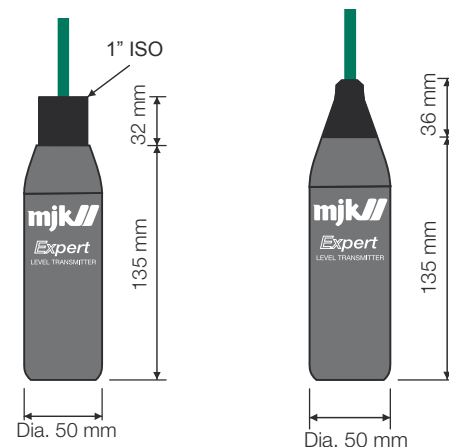
Electrical Connections



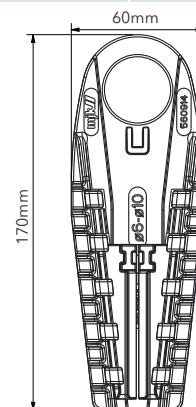
Designations		
1	Red	Positive (+) wire
2	Brown	Negative (-) wire
3	Black	Shield (NOT signal ground!)
4	Tube	Air pressure compensation tube and Moisture filter
5	Hidden	Programming wires

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

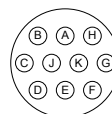
Expert 3400 Level Transmitter

3400D Connector

Wire color and connector pin coding for Chatter™

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



Isolator / Zener barriere

When using model Expert™ level transmitters 1400/3400 in explosion hazardous environments Category 2 (Zone 1 and 2), an isolator or a zener barrier **must** be used.

Isolator

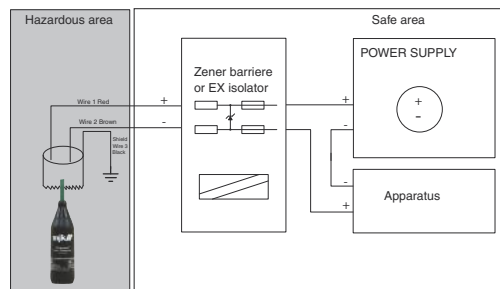
The isolator is an integrated unit including active components with low power consumption. A power supply provides power to the pressure transmitter through a galvanic separator such that neither current nor voltage exceeds the specified values. A ground connection is not required. Item No. 202993



Zener Barrier

The Zener barrier is a passive unit requiring a safe grounding connection based on the ATEX regulations.

The Zener barrier contains of 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. Item No. 202993



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.

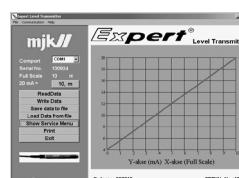


200117 Rainroof/Sun Shield for 531, weather protection for display and connection box



840100 For support of the Expert 1400 og 3400 series, use with 203990 PC Interface For Win XP-7

Use with 840100-2.03 USB driver for Win 7.
840100-2.03 USB driver for Expert Link (Win XP- Win 7) from download center



Expert 3400 Level Transmitter

Order Numbers

Expert™ 3400, Capacitive Ceramic, Relative Pressure	
203951	Expert™ 3400, range 0-0,3 m
203952	Expert™ 3400, range 0-1 m
203953	Expert™ 3400, range 0-3 m
203954	Expert™ 3400, range 0-5 m
203955	Expert™ 3400, range 0-10 m
203956	Expert™ 3400, range 0-30 m
203957-REL	Expert™ 3400, range 0-50 m
203957	Expert™ 3400, range 0-100 (SG) m
203958	Expert™ 3400, range 0-300 (SG) m
203961	Expert™ 3400, range 0-0,3 m with 1" ISO thread top
203962	Expert™ 3400, range 0-1 m with 1" ISO thread top
203963	Expert™ 3400, range 0-3 m with 1" ISO thread top

Order Numbers Accessories

Order Numbers Accessories	
200117	Sun shield / rain roof for connection box / field mounted temperature transmitter
200126	Display insert type 531 for connection box / field mounted temperature transmitter, 4-20mA loop powered
202920	Cable length, not standard
202922	Connectionbox for Expert™ level transmitter cable
202924	1" Thread top for Expert™ 7060/3400
202925	Expert™ 3400, with special measuring range
203990	USB interface for Expert™ 1400/3400 level transmitters with calibration software
202992	PC Interface (USB/RS485) for Expert 3400D/7060/7070/1100/2100
202993 ^⓪	Loop supplied insulator for DIN rail mounting.
202995 ^⓪	Zener barrier for hydrostatic transmitter 9002/13-280-110-00
560915	Cable mounting bracket for Expert™ 7060/3400
691004	Cable for Expert™ 7060/3400, heavy duty, high tensile PUR insulated cable
800100	Expert Link for 3400

^⓪ One of these is mandatory when using model 3400 in explosion hazardous environments.