

# MJK Expert™ 700 / 800 / 900 / 1100 / 2100

# MJK Expert™ 1400 / 3400



## Submersible Hydrostatic Level Transmitters

*Rugged and versatile*

2.75



US 2.75 Expert 0811

We reserve the right to continuously improve our products and make any change in the stated specifications and dimensions without prior notice.

General

MJK Expert™ hydrostatic level transmitters are designed for level measurement by submerging the transmitter in open channels, drains and tanks.

Expert™ hydrostatic level transmitters have a modern design with high functionality and the use of modern plastic and steel materials.

MJK level transmitters are used in sewage plants, pump stations, waterworks and in process tanks in the industry.

For more than 20 years MJK level transmitters have had a reputation for their high accuracy and stability, the ability to withstand rough industrial environments, their sturdiness and functional design and wide measuring ranges.

The Expert™ Level Transmitter Model 1400 and 3400 are approved according to UL and Atex for applications in hazardous areas.

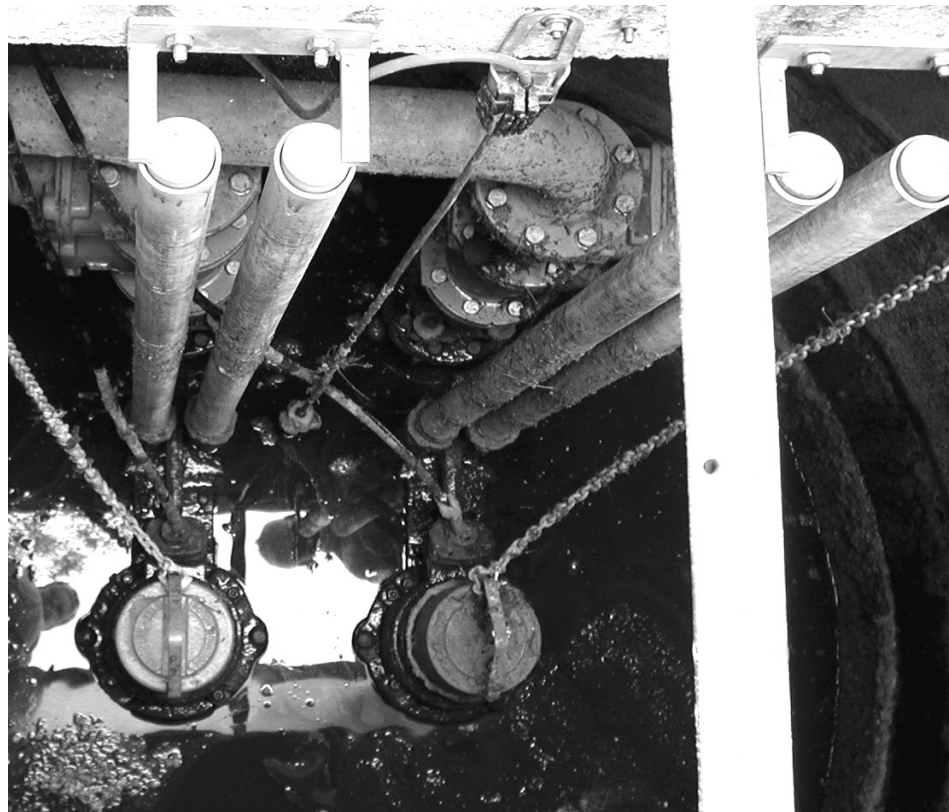
Features

- Sturdy design with housing from PPS, polypropylene or stainless steel.
- Steel reinforced cable with high tensile strength.
- Diaphragms from ceramic or 316L steel.
- 2-wire 4 - 20 mA passive signal system.
- The design without sharp edges prevent particles, textiles and paper from sticking to the housing or the diaphragm.
- Measuring ranges from 0 - 1 ft to 0 - 1000 ft.

Applications

MJK level transmitters are particularly suitable for use in:

- wastewater wells and tanks
- water reservoirs
- water borings
- harbours, lakes, and rivers
- chemical storage tanks
- process tanks
- open channel flow measurements



## Data Sheet

## Expert™ Hydrostatic Level Transmitters

### MJK Expert™ 700 Level Transmitter



The MJK Expert™ 700 Level Transmitter has a small external diameter - 0.63 inch - and is made of 316L stainless steel.

The transmitter is designed for measuring levels in and down water wells.

The MJK Expert™ 700 is an accurate 2-wire transmitter with a piezoresistive measuring system with direct air pressure and temperature compensation and built-in surge protection.

### Specifications

MJK Expert™ 700 Level Transmitter		
Nominal measuring range (ft. WG)	0 - 100 ft.	0 - 300 ft.
Measuring principle	Piezo-resistive (relative pressure)	
Min. programmable range	30 ft.	100 ft.
Max. programmable range	100 ft.	300 ft.
Non-standard range	Min. 0 - 30 ft. / Max. 0 - 900 ft.	
Max. overpressure	4.8 bar / 70 psi	20 bar / 290 psi
Temperature range	-5 °F to 175 °F	
Temperature deviation, zero point	Better than ± 0.01 % / °F	
Temperature deviation, full range	Better than ± 0.01 % / °F	
Linearity / Stability	Better than ± 0.5 % FS / ± 0.1 % FS	
Measurement accuracy	Better than ± 0.25 % FS @ 50 °F to 85 °F	
Long time stability	Better than ± 0.5 % FS per year	
Materials	Stainless Steel 316L / Viton® / PE	
Supply voltage	10 - 30 V DC (12 - 30 V DC for cable lengths above 300 ft.)	
Output signal	2-wire 4 - 20 mA (passive transmitter) / RS485	
Surge protection	Supply and RS485: 200A @ 8/20 µs Gnd/case: 2000A @ 8/20 µs	
Cable	5 x AWG 23, shielded, PE insulation	
Cable length <sup>①</sup>	115 ft.	360 ft.
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure	
Weight (without cable)	0.45 lbs	
Approvals	CE Conformity EN61000-6-1 to -6-4	

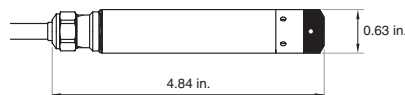
<sup>①</sup> Can be delivered with other cable lengths on request.

### Order Numbers

Order Numbers	
293816	Expert™ 700, range 0 - 100 ft.
293817	Expert™ 700, range 0 - 300 ft.
691110	Cable for Expert™ 700 (PE)

Contact MJK for special requests.

### Dimensions



MJK Expert™ 700 Level Transmitter  
External diameter: 0.63 in.  
Length: 4.84 in.

MJK Expert™ Log 800 Level Logger



The MJK Expert™ Log 800 Level Transmitter is a battery powered level and temperature transmitter with a build-in data logger.

The transmitter is designed for recording of level depth and temperature in bore holes and water wells over longer periods.

The MJK Expert™ Log 800 Level Transmitter has an external diameter of 0.63 in. and is made of 316L stainless steel.

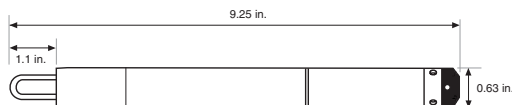
Specifications

MJK Expert™ Log 800 Level Logger		
Nominal measuring range (ft. WG)	0 - 100 ft.	0 - 300 ft.
Measuring principle	Piezo-resistive (absolute pressure)	
Max. overpressure	4.8 bar / 70 psi	20 bar / 290 psi
Compensated temperature range	15 °F to 105 °F	
Temperature deviation, zero point	Better than ± 0.01 % / °F	
Temperature deviation, full range	Better than ± 0.01 % / °F	
Linearity / Stability	Better than ± 0.5 % FS / ± 0.1 % FS	
Measurement accuracy	Level: Better than ± 0.25 % FS @ 50 °F to 85 °F (± air pressure <sup>⓪</sup> )	
Long time stability	Better than ± 0.5 mbar per year	
Materials	Stainless Steel 316L (DIN 1.4435) / Viton®	
Supply voltage	3.6 V DC Lithium battery (Type AAA)	
Battery lifetime	4 years @ one measurement/hour	
Output signal	RS485	
Electrical connection	Fischer DEE 103A054	
Memory	57'000 measuring values @ storage interval < 15 s 28'000 measuring values @ storage interval >15 s (always with attributed time)	
Shortest Measuring Range	1x per second	
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure	
Weight (without cable)	0.33 lbs	
Approvals	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	
<sup>⓪</sup> The MJK Expert™ Log 800 Level Logger works with an absolute pressure sensor. In shallow water depths where the influence of barometric pressure changes should be considered, it is recommended that a second data collector Expert™ Baro-Log be placed at the surface, to record the barometric pressure. The PC with MJK Log-Link then calculates the differential pressure respectively the water depth by subtracting the two measured values.		

Order Numbers

Order Numbers	
293856	Expert™ Log 800, range 0 - 100 ft.
293857	Expert™ Log 800, range 0 - 300 ft.
203996	MJK Log-Link and RS 232 Interface Cable for Expert™ Log 800-900 series
203998	MJK Log-Link and USB Interface Cable for Expert™ Log 800-900 series
203850	Expert™ Baro-Log for 800 series
Contact MJK for special requests.	

Dimensions



MJK Expert™ 800 Level Transmitter  
External diameter: 0.63 in.  
Length: 9.25 in.

MJK Expert™ Log 900 Level Logger



The MJK Expert™ Log 900 Level Logger is a battery powered with a built-in data logger. It is designed for level and temperature recordings water wells, bore holes and storm flow locations over longer periods. It has an external diameter of 0.87 inch and is made of 316L stainless steel.

The Log 900 is supplied with a 2" diameter fixing plate for mounting on top of dip pipes. The cable carries a vent tube which is protected by a breathable Gore-Tex® membrane in the connection house.

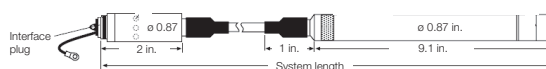
Specifications

MJK Expert™ Log 900 Level Logger				
Nominal measuring range (ft. WG)	0 - 10 ft.	0 - 30 ft.	0 - 100 ft.	0 - 300 ft.
Measuring principle	Piezo-resistive (relative pressure)			
Max. overpressure	2 bar / 30 psi	4 bar / 60 psi	12 bar / 180 psi	20 bar / 290 psi
Temperature range	15 °F to 105 °F			
Temperature deviation, zero point	Better than ± 0.01 % / °F			
Temperature deviation, full range	Better than ± 0.01 % / °F			
Linearity / Stability	Better than ± 0.5 % FS / ± 0.1 % FS			
Measurement accuracy	Level: better than ± 0.25 % FS @ 50 °F to 85 °F Temperature: better than ± 0.9 % °F			
Long time stability	Better than ± 0.5 % FS per year			
Materials	Stainless Steel 316L / Viton®			
Supply voltage	3.6 V DC Lithium battery (type AA)			
Battery lifetime	10 years @one measurement/hour			
Output signal	RS485			
Cable	5 x AWG 23, shielded, Polyethylene (PE) insulation			
Cable length	Specify when ordering			
Electrical connection	Fischer DEE 103A054			
Memory	57'000 measuring values @ storage interval < 15 s 28'000 measuring values @ storage interval >15 s (always with attributed time)			
Shortest measuring range	1x per second			
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure			
Weight (without cable)	0.77 lbs			
Approvals	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4			

Order Numbers

Order Numbers	
293863	Expert™ Log 900, range 0 - 10 ft.
293865	Expert™ Log 900, range 0 - 30 ft.
293866	Expert™ Log 900, range 0 - 100 ft.
293867	Expert™ Log 900, range 0 - 300 ft.
203996	MJK Log-Link and RS 232 Interface Cable for Expert™ Log 800-900 series
203998	MJK Log-Link and USB Interface Cable for Expert™ Log 800-900 series
691111	Cable for Expert™ log 900
<i>Contact MJK for special requests.</i>	

Dimensions



MJK Expert™ Log 900 Level Logger  
External diameter: 0.87 in.  
Length: 10.1 in.

MJK Expert™ 1100 Level Transmitter



The MJK Expert™ 1100 Level Transmitter has a small external diameter and is made of 316L stainless steel.

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

The MJK Expert™ 1100 is an accurate 2-wire transmitter with a piezoresistive measuring system with direct air pressure and temperature compensation.

Specifications

MJK Expert™ 1100 Hydrostatic Level Transmitter			
Nominal measuring range (ftWG)	0 - 10 ft.	0 - 30 ft.	0 - 100 ft.
Measuring principle	Piezoresistive (pressure)		
Min. programmable range	0 - 6 ft.	0 - 12 ft.	0 - 36 ft.
Max. programmable range	0 - 12 ft.	0 - 36 ft.	0 - 200 ft.
Non-standard range	Min. 0 - 6 ft. / Max. 0 - 900 ft.		
Max. overpressure	3.5 bar / 50 psi	3.5 bar / 50 psi	10 bar / 150 psi
Temperature range	15 to 150 °F		
Temperature deviation, zero point	Better than ± 0.01 % / °F		
Temperature deviation, full range	Better than ± 0.008 % / °F		
Linearity / Stability	Better than ± 0.5 % FS / ± 0.1 % FS		
Measurement accuracy	Better than ± 0.25 % FS @ 50 to 85 °F Better than ± 0.5 % FS @ full temperature range		
Long time stability	Better than ± 0.5 % FS per year		
Materials	Housing and diaphragm made from stainless steel (AISI 316 L)		
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 × AWG 20 (pressure) + 5 × AWG 25 (data), shielded, PUR insulation		
Cable length <sup>①</sup>	39 ft.	39 ft.	115 ft.
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure		
Approvals	EN61000-6-3/-4:2001, EN61000-6-1/-2:1999		

<sup>①</sup> Can be delivered with other cable lengths on request.

Order Numbers

Order Numbers	
209950	Expert™ 1100, range 0 - 10 ft.
209955	Expert™ 1100, range 0 - 30 ft.
209960	Expert™ 1100, range 0 - 100 ft.

Dimensions



MJK Expert™ 1100T Level Transmitter



The MJK Expert™ 1100T level and temperature transmitter is made of 316L stainless steel. It is suitable in applications where an accurate level measurement is needed along with a temperature measurement.

The most important application is ground water monitoring, where the ground water temperature has to be monitored.

The transmitter is suitable for level and temperature measurements in all clean liquids.

Specifications

MJK Expert™ 1100T Hydrostatic Level Transmitter			
Nominal measuring range (ftWG)	0 - 10 ft.	0 - 30 ft.	0 - 100 ft.
Measuring principle	Piezoresistive (pressure) / PT100 (temperature)		
Min. programmable range	0 - 6 ft.	0 - 12 ft.	0 - 36 ft.
Max. programmable range	0 - 12 ft.	0 - 36 ft.	0 - 200 ft.
Non-standard range	Min. 0 - 6 ft. / Max. 0 - 900 ft.		
Max. overpressure	3.5 bar / 50 psi	3.5 / 50 psi	10 bar / 150 psi
Temperature range	15 to 150 °F		
Temperature deviation, zero point	Better than ± 0.01 % / °F		
Temperature deviation, full range	Better than ± 0.008 % / °F		
Linearity / Stability	Better than ± 0.5 % FS / ± 0.1 % FS		
Measurement accuracy	Better than ± 0.25 % FS @ 50 to 85 °F Better than ± 0.5 % FS @ full temperature range		
Long time stability	Better than ± 0.5 % FS per year		
Materials	Housing and diaphragm made from stainless steel (1.4404 / AISI 316 L)		
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) and 3-wire PT100		
Cable	2 × AWG 20 (pressure) and 3 × AWG 25 (temp.), shielded, PUR insulation		
Cable length <sup>⓪</sup>	39 ft.	39 ft.	115 ft.
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure		
Approvals	EN61000-6-3/-4:2001, EN61000-6-1/-2:1999		

<sup>⓪</sup> Can be delivered with other cable lengths on request.

Order Numbers

Order Numbers	
209951	Expert™ 1100T, range 0 - 10 ft.
209956	Expert™ 1100T, range 0 - 30 ft.
209961	Expert™ 1100T, range 0 - 100 ft.

Dimensions and Accessories

MJK Expert™ 1100T Level Transmitter

Cable bracket

Terminal designation

#: Color:

- 1: Green (temperature in)
- 2: Brown (temperature in)
- 3: White (temperature in)
- 4: Passive 4-20 mA output
- 5: Passive 4-20 mA output

MJK model 561 PT100 / 4-20 mA converter

MJK Expert™ 1400 Level Transmitter



MJK Expert™ 1400 Level Transmitter has about the same specifications as the 1100 model. In addition it has a ceramic, capacitive measuring system with a much higher accuracy. Furthermore, Expert™ 1400 is approved for use in explosion hazardous areas. (UL Class 1, Division 1, Group A-D)

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

Specifications

MJK Expert™ 1400 Hydrostatic Level Transmitter								
Nominal measuring range	0 - 1 ft.	0 - 3 ft.	0 - 10'	0 - 15'	0 - 30'	0 - 100'	0 - 300'	0 - 1000'
Measuring principle	Ceramic capacitive, relative pressure							
Min. programmable range	0 - 9 ft.	0 - 9 ft.	0 - 3 ft.	0 - 10'	0 - 9'	0 - 30'	0 - 90'	0 - 300'
Max. programmable range	0 - 3 ft.	0 - 3 ft.	0 - 10'	0 - 30'	0 - 30'	0 - 100'	0 - 300'	0 - 1000'
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 ± 0.01 % / °F							
Temperature deviation, FS	Better than ± 0.005 % / °F							
Linearity / Stability	Better than ± 0.2 % FS / ± 0.2 % FS							
Measurement accuracy	Better than ± 0.1 % FS @ 50 to 85 °F Better than ± 0.2 % FS @ full temperature range							
Long time stability	Better than ± 0.1 % FS per year							
Materials	Housing: stainless steel (AISI 316 L), diaphragm: 96,6 % Al <sub>2</sub> O <sub>3</sub> /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.	314 ft.	1014 ft.
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure.							
Approvals	UL® Class 1 Division 1 Group A-D, ATEX: II 2G EEx ia IIC T5/T6 and CE: EN61000-6-3/-4:2001, EN61000-6-1/-2:1999, EN50014:1997 E, EN50020:2002							

<sup>①</sup> Can be delivered with other cable lengths on request.

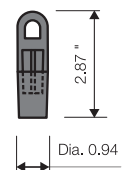
Order Numbers

Order Numbers			
209911	Expert™ 1400, range 0 - 0.3 ft. WG	209916	Expert™ 1400, range 0 - 30 ft. WG
209912	Expert™ 1400, range 0 - 1 ft. WG	209917	Expert™ 1400, range 0 - 100 ft. WG
209913	Expert™ 1400, range 0 - 3 ft. WG	209918	Expert™ 1400, range 0 - 300 ft. WG
209914	Expert™ 1400, range 0 - 5 ft. WG	209925	Expert™ 1400, range 0 - 0 ft. WG
209915	Expert™ 1400, range 0 - 10 ft. WG	All 1400 transmitters are UL and Atex approved.	

Dimensions and Accessories



MJK Expert™ 1400 Level Transmitter



Cable bracket for MJK Expert™ 1400 Level Transmitter (1 pc. is delivered with each transmitter)



MJK Expert™ 2100 Level Transmitter



MJK Expert™ 2100 Level Transmitter is a very robust and useful all-round transmitter. It is one of the most used in MJK's transmitter program.

The transmitter is equipped with a piezo-resistive measuring system with high precision and direct air pressure compensation through a vent tube in the cable.

Expert™ 2100 is ideal for measuring levels in storage tanks, wet wells and pump stations in both water and wastewater plants.

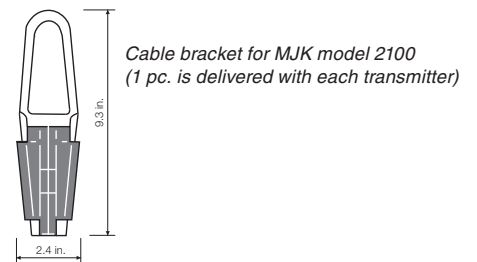
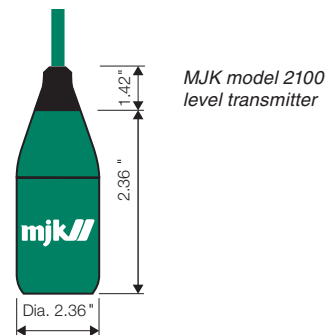
Specifications

MJK Expert™ 2100 Hydrostatic Level Transmitter				
Nominal measuring range (ftWG)	0 - 10 ft.	0 - 15 ft.	0 - 30 ft.	0 - 100 ft.
Measuring principle	Piezoresistive			
Min. programmable range	0 - 6 ft.	0 - 6 ft.	0 - 6 ft.	0 - 30 ft.
Max. programmable range	0 - 36 ft.	0 - 36 ft.	0 - 36 ft.	0 - 200 ft. <sup>Ⓢ</sup>
Non-standard range	Min. 0 - 6 ft. / Max. 0 - 900 ft.			
Max. overpressure	3.5 bar / 50 psi	3.5 bar / 50 psi	3.5 bar / 50 psi	10 bar / 150 psi
Temperature range	15 to 150 °F			
Temperature deviation, zero point	Better than ± 0.01 % / °F			
Temperature deviation, full range	Better than ± 0.008 % / °F			
Linearity / Stability	Better than ± 0.5 % FS / ± 0.1 % FS			
Measurement accuracy	Better than ± 0.25 % FS @ 50 to 85 °F Better than ± 0.5 % FS @ full temperature range			
Long time stability	Better than ± 0.5 % FS per year			
Materials	Housing: PP / Diaphragm: Stainless steel (AISI 316 L)			
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 <sup>Ⓛ</sup>	39 ft.	39 ft.	39 ft.	115 ft.
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure			
Approvals	EN61000-6-3/-4:2001, EN61000-6-1/-2:1999			
<sup>Ⓛ</sup> Can be delivered with other cable lengths on request. <sup>Ⓢ</sup> Can be delivered with up to 900 ft.				

Order Numbers

Order Numbers			
209930	Expert™ 2100, range 0 - 10 ft. WG	220291	Expert™ 2100 in special materials
209935	Expert™ 2100, range 0 - 30 ft. WG	202925	Expert™ 2100 w/ special meas.range
209940	Expert™ 2100, range 0 - 100 ft. WG		

Dimensions and Accessories



MJK Expert™ 3400 Level Transmitter



MJK Expert™ 3400 Level Transmitter is designed for use in waterworks, sewage treatment plants and industrial applications where accurate and long term stable level measuring is required. It is very robust and designed for applications in rough environments with aggressive chemicals and aggressive fluids.

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

Specifications

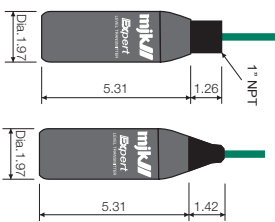
MJK Expert™ 3400 Hydrostatic Level Transmitter							
Nominal measuring range	0 - 1 ft.	0 - 3 ft.	0 - 10 ft.	0 - 30 ft.	0 - 100 ft.	0 - 300 ft.	0 - 1000 ft.
Measuring principle	Ceramic capacitive, relative pressure						
Min. programmable range	0 - .9 ft.	0 - .9 ft.	0 - 3 ft.	0 - 9'	0 - 30'	0 - 90'	0 - 300'
Max. programmable range	0 - 3 ft.	0 - 3 ft.	0 - 10'	0 - 30'	0 - 100'	0 - 300'	0 - 1000'
Max. overpressure	75 psi	75 psi	100 psi	150 psi	275 psi	600 psi	600 psi
Temperature range	-5 °F to 105 °F						
Temp. deviation, zero point	Better than ± 0.01 % / °F						
Temperature deviation, FS	Better than ± 0.005 % / °F						
Linearity / Stability	Better than ± 0.5 % FS / ± 0.5 % FS						
Measurement accuracy	Better than ± 0.1 % FS @ 50-85 °F, and better than ± 0.2 % FS @ full temp. range						
Long time stability	Better than ± 0.1 % FS per year						
Materials	Housing: PPS (Ryton), diaphragm: 99,9 % Al <sub>2</sub> O <sub>3</sub> , measurement 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 × AWG 20 (pressure) + 5 x AWG 25 (data), shielded, PUR insulation						
Cable length	39 ft.	39 ft.	39 ft.	39 ft.	114 ft.	314 ft.	1014 ft.
Enclosure	NEMA 6P, withstands a static pressure equal to max. overpressure						
Approvals	UL® Class 1 Division 1 Group A-D, ATEX: II 2G EEx ia IIC T5/T6 and CE: EN61000-6-3/-4:2001, EN61000-6-1/-2:1999, EN50014:1997 E, EN50020:2002						

① Can be delivered with other cable lengths on request.

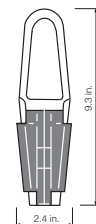
Order numbers

Order Numbers			
209921	Expert™ 3400, range 0 - 1 ft. WG	209928	Expert™ 3400, range 0 - 1000 ft. WG
209922	Expert™ 3400, range 0 - 3 ft. WG	209991	Expert™ 3400, range 0 - 1 ft. 1" NPT top
209923	Expert™ 3400, range 0 - 10 ft. WG	209992	Expert™ 3400, range 0 - 3 ft. 1" NPT top
209925	Expert™ 3400, range 0 - 30 ft. WG	209993	Expert™ 3400, range 0 - 10 ft. 1" NPT top
209926	Expert™ 3400, range 0 - 100 ft. WG	209996	Expert™ 3400, range 0 - 100 ft. 1" NPT top
209927	Expert™ 3400, range 0 - 300 ft. WG	202925	Expert™ 3400 w/ special meas. range

Dimensions and Accessories



MJK Expert™ 3400 Level Transmitter

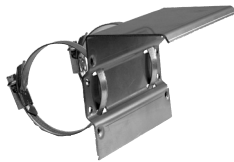


Cable bracket for MJK model 3400 (1 pc. is delivered with each transmitter)

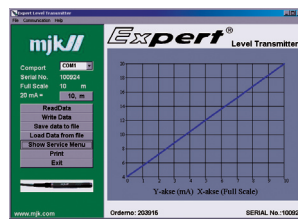
Accessories and Options



Connection Box and Display Insert.



Cable bracket with rain roof for display or connection box.



Calibration utility for Expert™ level transmitters.

For extending signal cables from MJK 1100/1400/2100/3400 level transmitters with a compensation tube, we recommend using a vented connection box. MJK's connection box is an NEMA 4 class enclosure made from ABS and has a plastic breather valve. As an option a digital display insert can be fitted instead of the normal lid for on-site level or temperature indication.

To facilitate on-site mounting and extra protection, a stainless steel rain roof with a cable bracket is available.

Expert™ level transmitters models 1100, 1400, 2100 and 3400 can be programmed to any measuring range from 0 - 1 ft. to 0 - 1000 ft. with a PC interface and a calibration utility. Programming can be done while the transmitter is in service.

Thread connection

Models 2100 and 3400 can be delivered with an 1" NPT thread top for mounting the transmitter on a pipe end.

Copper ring

When using model 2100 level transmitter in sea water for measuring levels in harbors or cooling water outlets where fouling from marine life can cause problems, the transmitter can be supplied with a copper ring that prevents organic growth.

Order Numbers

Order Numbers			
560915	Cable bracket for MJK 2100 and 3400	209821	1" NPT thread top for model 2100
560916	Cable bracket for MJK 1100/1100T/1400	202918	Copper ring for model 2100
202922	Connection box for level transmitter cable	203990	USB interface for Expert™ model 1400/3400 level transmitters with calibration software
209295	Temperature transmitter type 561 for 1100T, 15 ... 160 °F for field mounting	203992	USB interface for model 1100/1100T/2100 level transmitter with calibration software
209234	Temperature transmitter type 561 for 1100T, 15 ... 160 °F, for DIN rail mounting	691008	Heavy duty, high-tensile PUR insulated cable for model 1100/1400 (recommended for measuring ranges above 50 m.)
200117	Sun shield / rain roof for connection box / field mounted temperature transmitter	202993	Loop supplied insulator for DIN rail mounting. Mandatory when using model Expert™ 1400/3400 in explosion hazardous environments.
200126	Display insert type 531 for connection box / field mounted temperature transmitter	560920	Expert™ Log 900, 2" fixing plate for dip pipe.

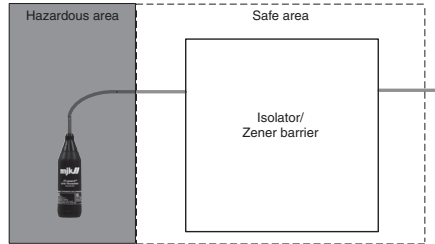
Please use a build-up code as shown below when ordering special MJK level transmitters with non-standard measuring range and cable lengths.

11 - RF050 - CF040

11 = MJK model 1100  
 RF050 = measuring range in feet (0 - 999 ft.)  
 CF040 = cable length in feet (0 - 999 ft.)

Accessories and Options (cont'd)

Isolator/  
Zener Barrier



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.

**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.

Specifications

Specifications	
<b>Isolator</b>	
Supply	5-35 V DC, loop powered, lead breakage monitoring
Output signal	Single channel 4 - 20 mA
Temperature, ambient	-5 °F to 140 °F
Enclosure	NEMA 1
Approvals	CE-Conformity, Directive 89/336/EC EN 50081-2, EN 50082-2
EC-Type Examination Certificate	BAS 98 ATEX 7343
UL Certificate No	E106378 UL
Group, category, type of protection	Ex II (1) G D [EEx ia] IIC (-5 °F ≤ T <sub>amb</sub> ≤ 140 °F) (for zone 1 and 2)
<b>Zener barrier</b>	
Nominal data	28 V, 300 Ω
Intrinsically safe characteristics for [EEx ia] IIC	U <sub>z</sub> = 28 V, R <sub>min</sub> = 301 Ω, I <sub>k</sub> = 93 mA, P <sub>max</sub> = 0,65 W, C <sub>max</sub> = 0,083 μF, L <sub>max</sub> = 3,05 mH, L/R Ratio: 56
Fuse rating	50 mA
Temperature, ambient	-5 °F to 140 °F
Enclosure	NEMA 1
EC-Type Examination Certificate	BAS 01 ATEX 7005
UL Certificate No	E106378 UL

Order numbers

Order Numbers	
202993	Loop supplied insulator for DIN rail mounting.
202995	Zener barriers for DIN rail mounting.

Dimensions

Dimensions	
Isolator	0.8 x 4.2 x 5.5 in.
Zener barrier	0.8 x 4.2 x 5.5 in.