

# MJK Expert™ 700 / 800 / 900 / 7070 / 7060 MJK Expert™ 1400 / 3400



## Submersible Hydrostatic Level Transmitters

*Rugged and versatile*

2.75



**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.

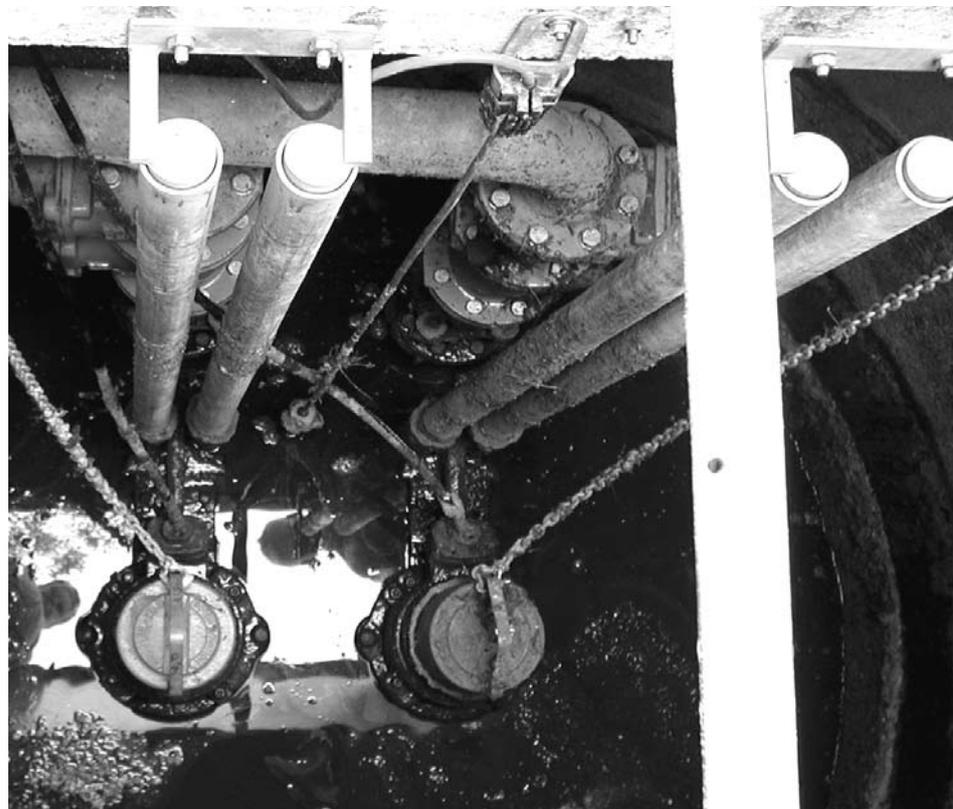
**Features**

- 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 - 0,3 m to 0 - 300 m

**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



## MJK Expert™ 700 Level Transmitter



The MJK Expert™ 700 Level Transmitter has a small external diameter - 16 mm - and is made of 316L stainless steel.

The transmitter is designed for measuring levels in 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 (mWG)	0 - 30 m	0 - 100 m
Measuring principle	Piezo-resistive (relative pressure)	
Min. programmable range	10 m	30 m
Max. programmable range	30 m	100 m
Non-standard range	Min. 0 - 10 m / Max. 0 - 300 m	
Max. overpressure	5 bar	20 bar
Temperature range	-20 °C to 80 °C	
Temperature deviation, zero point	Better than ± 0.02 % / °C	
Temperature 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 °C to 30 °C	
Long time stability	Better than ± 0.5 % FS per year	
Materials	Stainless Steel 316L (DIN 1.4435) / Viton® / PE	
Supply voltage	10 - 30 V DC (12 - 30 V DC for cable lengths above 100 m)	
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 0,25 mm <sup>2</sup> , shielded, PE insulation	
Cable length <sup>①</sup>	35 m	110 m
Enclosure	IP 68, withstands a static pressure equal to max. overpressure	
Weight (without cable)	0,2 kg	
Approvals	CE Conformity EN61000-6-1 to -6-4	

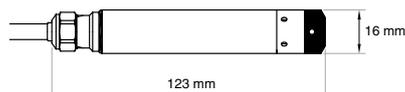
<sup>①</sup> Can be delivered with other cable lengths on request.

## Order Numbers

Order Numbers	
203816	Expert™ 700, range 0 - 30 m
203817	Expert™ 700, range 0 - 100 m
691110	Cable for Expert™ 700 (PE)

Contact MJK for special requests.

## Dimensions



MJK Expert™ 700 Level Transmitter  
External diameter: 16 mm  
Length: 123 mm

## 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 16 mm and is made of 316L stainless steel.

## Specifications

MJK Expert™ Log 800 Level Logger		
Nominal measuring range (mWG)	0 - 30 m	0 - 100 m
Measuring principle	Piezo-resistive (absolute pressure)	
Max. overpressure	6 bar	20 bar
Compensated temperature range	-10 °C to 40 °C	
Temperature deviation, zero point	Better than $\pm 0.02$ % / °C	
Temperature deviation, full range	Better than $\pm 0.02$ % / °C	
Linearity / Stability	Better than $\pm 0.5$ % FS / $\pm 0.1$ % FS	
Measurement accuracy	Level: Better than $\pm 0.25$ % FS @ 10 °C to 30 °C ( $\pm$ air pressure <sup>®</sup> )	
Long time stability	Better than $\pm 0.5$ mbar per year	
Materials	Stainless Steel 316L (DIN 1.4435) / Viton <sup>®</sup>	
Supply voltage	3.6 V DC Lithium battery (Type AAA)	
Battery lifetime	4 years @ 1 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	IP 68, withstands a static pressure equal to max. overpressure	
Weight (without cable)	0,15 kg	
Approvals	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	

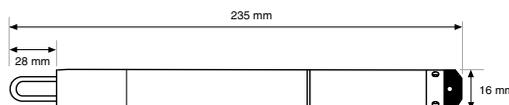
<sup>®</sup> The MJK Expert™ Log 800 Level Logger works with an absolute pressure sensor. In shallow water depths where the influence of barometric pressure changes should be considered, it is recommended that a second data collector Expert™ Baro-Log be placed at the surface, to record the barometric 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	
203856	Expert™ Log 800, range 0 - 30 m
203857	Expert™ Log 800, range 0 - 100 m
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: 16 mm  
Length: 235 mm

## MJK Expert™ Log 900 Level Logger



The MJK Expert™ Log 900 Level Logger is battery powered with a built-in data logger. It is designed for level and temperature recordings in wells, bore holes and storm flow locations over longer periods. It has an external diameter of 22 mm and is made of 316L stainless steel.

The Log 900 is supplied with a 50 mm 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 (mWG)	0 - 3 m	0 - 10 m	0 - 30 m	0 - 100 m
Measuring principle	Piezo-resistive (relative pressure)			
Max. overpressure	2 bar	4 bar	12 bar	20 bar
Temperature range	-10 °C to 40 °C			
Temperature deviation, zero point	Better than ± 0.02 % / °C			
Temperature deviation, full range	Better than ± 0.02 % / °C			
Linearity / Stability	Better than ± 0.5 % FS / ± 0.1 % FS			
Measurement accuracy	Level: better than ± 0.25 % FS @ 10 °C to 30 °C Temperature: better than ± 0.9 % °C			
Long time stability	Better than ± 0.5 % FS per year			
Materials	Stainless Steel 316L (DIN 1.4435) / Viton®			
Supply voltage	3.6 V DC Lithium battery (type AA)			
Battery lifetime	10 years @ 1 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	IP 68, withstands a static pressure equal to max. overpressure			
Weight (without cable)	0,355 kg			
Approvals	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4			

## Order Numbers

Order Numbers	
203863	Expert™ Log 900, range 0 - 3 m
203865	Expert™ Log 900, range 0 - 10 m
203866	Expert™ Log 900, range 0 - 30 m
203867	Expert™ Log 900, range 0 - 100 m
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 (PE)
<i>Contact MJK for special requests.</i>	

## Dimensions



MJK Expert™ Log 900 Level Logger  
External diameter: 22 mm  
Length: 255 mm

MJK Expert™ 7070 Level Transmitter



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 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.

Specifications

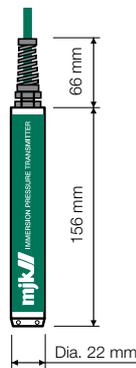
MJK Expert™ 7070 Hydrostatic Level Transmitter			
Nominal measuring range (mWG)	0 - 3 m	0 - 10 m	0 - 30 m
Measuring principle	Piezoresistive (pressure)		
Min. programmable range	0 - 2 m.	0 - 4 m.	0 - 12 m
Max. programmable range	0 - 4 m	0 - 12 m	0 - 60 m <sup>Ⓜ</sup>
Non-standard range	Min. 0 - 2 m / Max. 0 - 300 m		
Max. overpressure	3 bar	3 bar	10 bar
Temperature range	-10 °C to 65 °C		
Temperature deviation, zero point	Better than ± 0.02 % / °C		
Temperature 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 made from stainless steel (1.4404 / AISI 316 L)		
Supply voltage	10 - 30 V DC (12 - 30 V DC for cable lengths above 110 m)		
Output signal	2-wire 4 - 20 mA (passive transmitter)		
Cable	2 × 0,5 mm <sup>2</sup> (pressure) + 5 × 0,15 mm <sup>2</sup> (data), shielded, PUR insulation		
Cable length <sup>Ⓢ</sup>	12 m	12 m	35 m
Enclosure	IP68, 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 300 m.

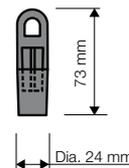
Order Numbers

Order Numbers	
202950	Expert™ 7070, range 0 - 3 m
202955	Expert™ 7070, range 0 - 10 m
202960	Expert™ 7070, range 0 - 30 m

Dimensions and Accessories



MJK Expert™ 7070 Level Transmitter



Cable bracket for MJK Expert™ 7070 Level Transmitter

MJK Expert™ 7070T Level Transmitter



The MJK Expert™ 7070T 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

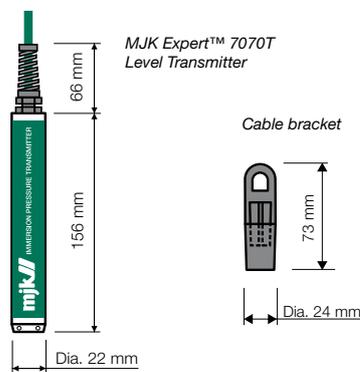
MJK Expert™ 7070T Hydrostatic Level Transmitter			
Nominal measuring range (mWG)	0 - 3 m	0 - 10 m	0 - 30 m
Measuring principle	Piezoresistive (pressure) / PT100 (temperature)		
Min. programmable range	0 - 2 m	0 - 2 m	0 - 6 m
Max. programmable range	0 - 4 m	0 - 12 m	0 - 60 m <sup>Ⓜ</sup>
Non-standard range	Min. 0 - 2 m / Max. 0 - 300 m		
Max. overpressure	3 bar	3 bar	10 bar
Temperature range	-10 to 60 °C		
Temperature deviation, zero point	Better than ± 0.02 % / °C		
Temperature 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 made from stainless steel (1.4404 / AISI 316 L)		
Supply voltage	10 - 30 V DC (12 - 30 V DC for cable lengths above 110 m)		
Output signal	2-wire 4 - 20 mA (passive transmitter) and 3-wire PT100		
Cable	2 × 0,5 mm <sup>2</sup> (pressure) and 3 × 0,15 mm <sup>2</sup> (temp.), shielded, PUR insulation		
Cable length <sup>Ⓟ</sup>	12 m	12 m	35 m
Enclosure	IP 68, 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 300 m.

Order Numbers

Order Numbers	
202951	Expert™ 7070T, range 0 - 3 m
202956	Expert™ 7070T, range 0 - 10 m
202961	Expert™ 7070T, range 0 - 30 m

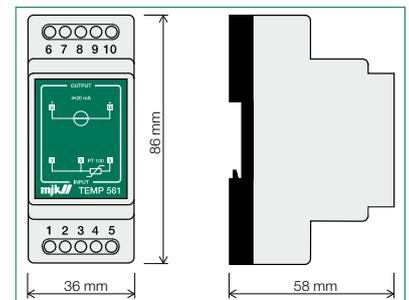
Dimensions and Accessories



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 7070 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 and ATEX Ex ia IIC T6.

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

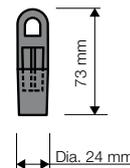
MJK Expert™ 1400 Hydrostatic Level Transmitter								
Nominal measuring range	0 - 0,3 m	0 - 1 m	0 - 3 m	0 - 5 m	0 - 10 m	0 - 30 m	0 - 100 m	0 - 300 m
Measuring principle	Ceramic capacitive, relative pressure							
Min. programmable range	0 - 0,3 m	0 - 0,3 m	0 - 1 m	0 - 3 m	0 - 3 m	0 - 10 m	0 - 30 m	0 - 90 m
Max. programmable range	0 - 1 m	0 - 1 m	0 - 3 m	0 - 10 m	0 - 10 m	0 - 30 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
Temperature range	-10 °C to 70 °C							
Temp. deviation, 0 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: 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 100 m)							
Output signal	2-wire 4 - 20 mA (passive transmitter)							
Cable	2 × 0,5 mm <sup>2</sup> (pressure) + 5 × 0,15 mm <sup>2</sup> (data), shielded, PUR insulation							
Cable length	12 m	12 m	12 m	12 m	12 m	35 m	110 m	320 m
Enclosure	IP 68, 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			
203911	Expert™ 1400, range 0 - 0,3 mWG	203916	Expert™ 1400, range 0 - 30 mWG
203912	Expert™ 1400, range 0 - 1 mWG	203917	Expert™ 1400, range 0 - 100 mWG
203913	Expert™ 1400, range 0 - 3 mWG	203918	Expert™ 1400, range 0 - 300 mWG
203914	Expert™ 1400, range 0 - 5 mWG	202925	Expert™ 1400, special meas. range
203915	Expert™ 1400, range 0 - 10 mWG	All 1400 transmitters are UL and ATEX approved.	

Dimensions and Accessories



MJK Expert™ 7060 Level Transmitter



MJK Expert™ 7060 Level Transmitter is a very robust and useful all-round transmitter.

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™ 7060 is ideal for measuring levels in storage tanks, wet wells and pump stations in both water and wastewater plants.

Specifications

MJK Expert™ 7060 Hydrostatic Level Transmitter				
Nominal measuring range (mWG)	0 - 3 m	0 - 5 m	0 - 10 m	0 - 30 m
Measuring principle	Piezoresistive			
Min. programmable range	0 - 2 m	0 - 2 m	0 - 2 m	0 - 10 m
Max. programmable range	0 - 12 m	0 - 12 m	0 - 12 m	0 - 60 m <sup>®</sup>
Non-standard range	Min. 0 - 2 m / Max. 0 - 300 m			
Max. overpressure	3 bar	3 bar	3 bar	10 bar
Temperature range	-10 to 60 °C			
Temperature deviation, zero point	Better than ± 0.02 % / °C			
Temperature 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: PP / Diaphragm: Stainless steel (1.4404 / AISI 316 L)			
Supply voltage	10 - 30 V DC (12 - 30 V DC for cable lengths above 100 m)			
Output signal	2-wire 4 - 20 mA (passive transmitter)			
Cable	2 × 0,5 mm <sup>2</sup> (pressure) + 5 × 0,15 mm <sup>2</sup> (data), shielded, PUR insulation			
Cable length <sup>®</sup>	12 m	12 m	12 m	35 m
Enclosure	IP 68, 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 300 m.

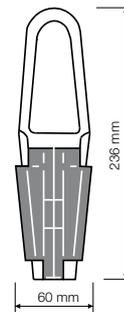
Order Numbers

Order Numbers			
202930	Expert™ 7060, range 0 - 3 mWG	202940	Expert™ 7060, range 0 - 30 mWG
202932	Expert™ 7060, range 0 - 5 mWG	220291	Expert™ 7060 in special materials
202935	Expert™ 7060, range 0 - 10 mWG	202925	Expert™ 7060 w/ special meas.range

Dimensions and Accessories



MJK model 7060 level transmitter



Cable bracket for MJK model 7060 (1 pc. is delivered with each transmitter)

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

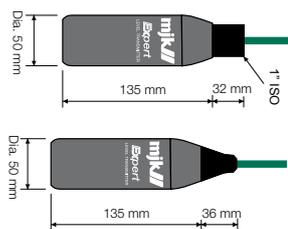
MJK Expert™ 3400 Hydrostatic Level Transmitter								
Nominal measuring range	0 - 0,3 m	0 - 1 m	0 - 3 m	0 - 5 m	0 - 10 m	0 - 30 m	0 - 100 m	0 - 300 m
Measuring principle	Ceramic capacitive, relative pressure							
Min. programmable range	0 - 0,3 m	0 - 0,3 m	0 - 1 m	0 - 3 m	0 - 3 m	0 - 10 m	0 - 30 m	0 - 90 m
Max. programmable range	0 - 1 m	0 - 1 m	0 - 3 m	0 - 10 m	0 - 10 m	0 - 30 m	0 - 100 m	0 - 300 m
Max. overpressure	4 bar	4 bar	6 bar	10 bari	10 bar	18 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 (Ryton), diaphragm: 99,9 % 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 110 m)							
Output signal	2-wire 4 - 20 mA (passive transmitter)							
Cable	2 × 0,5 mm <sup>2</sup> (pressure) + 5 × 0,15 mm <sup>2</sup> (data), shielded, PUR insulation							
Cable length	12 m	12 m	12 m	12 m	12 m	35 m	110 m	320 m
Enclosure	IP 68, 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.

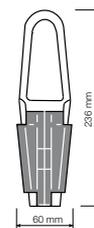
Order numbers

Order Numbers			
203951	Expert™ 3400, range 0 - 0.3 mWG	203957	Expert™ 3400, range 0 - 100 mWG
203952	Expert™ 3400, range 0 - 1 mWG	203958	Expert™ 3400, range 0 - 300 mWG
203953	Expert™ 3400, range 0 - 3 mWG	203961	Expert™ 3400, range 0 - 0.3 m 1" RG top
209954	Expert™ 3400, range 0 - 5 mWG	203962	Expert™ 3400, range 0 - 1 m 1" RG top
203955	Expert™ 3400, range 0 - 10 mWG	203963	Expert™ 3400, range 0 - 3 m 1" RG top
203956	Expert™ 3400, range 0 - 30 mWG	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)

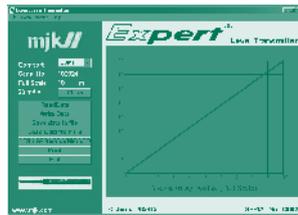
Accessories and Options



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 7070/1400/7060/3400 level transmitters with a compensation tube, we recommend using a vented connection box. MJK's connection box is an IP67 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 model 1400 and 3400 can be programmed to any measuring range from 0 - 30 cm to 0 - 300 m with a PC interface and a calibration utility. Programming can be done while the transmitter is in service.

Thread connection

Models 7060 and 3400 can be delivered with a 1" ISO thread top for mounting the transmitter on a pipe end.

Copper ring

When using model 7060 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 7060 and 3400	202921	1" ISO thread top for model 7060
560916	Cable bracket for MJK 7070/7070T/1400	202918	Copper ring for model 7060
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 7070T, -10 ... 70 °C for field mounting	203992	USB interface for model 7070/7070T/7060 level transmitter with calibration software
209234	Temperature transmitter type 561 for 7070T, -10 ... 70 °C, for DIN rail mounting	691008	Heavy duty, high-tensile PUR insulated cable for model 7070/1400 (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, 50 mm, 2" fixing plate for dip pipe.

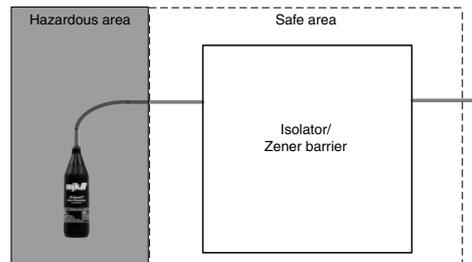
Please use a build-up code as shown below when ordering special MJK level transmitters with non-standard measuring range and cable lengths.

70 - RM050 - CM040

70 = MJK model 7070  
 RM050 = measuring range in meters (0 - 200 m)  
 CM040 = cable length in meters (0 - 1000 m)

## 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	-20 °C to 60 °C
Enclosure	IP20
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 (-20 °C ≤ T <sub>amb</sub> ≤ 60 °C) (for zone 1 and 2)
<b>Zener barrier</b>	
Nominal data	28 V, 300 Ω
Intrinsically safe characteristics for [EEx ia] IIC	U <sub>2</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	-20 °C to 60 °C
Enclosure	IP20
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	20 x 107 x 115 mm
Zener barrier	20 x 107 x 115 mm

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