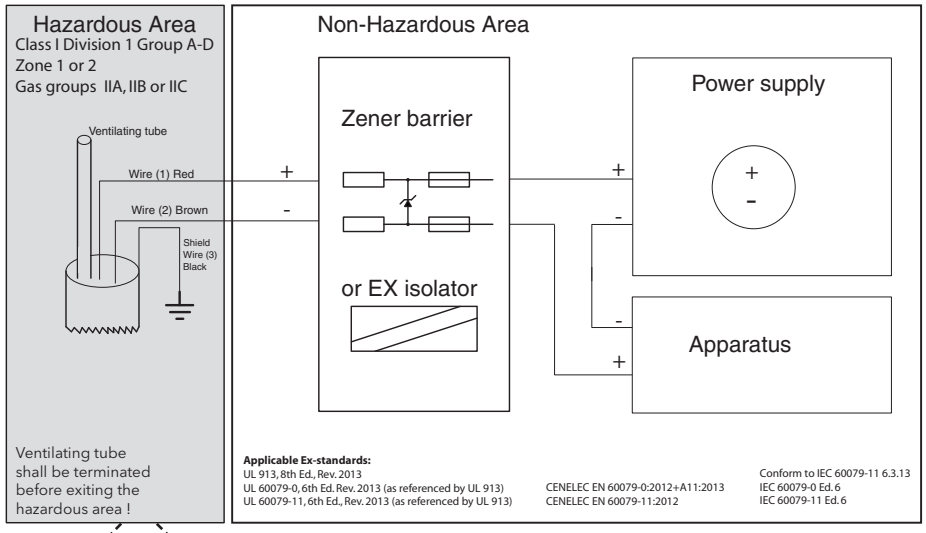
Control Drawing 5222



Model 3400 *Model 1400*

The user shall check the compatibility between the process media and the materials of the apparatus.

Ratings:
Vmax(Ui) = 30Vdc
Imax(Ii) = 0.101 A
Pmax(Pi) = 0.75 W

C i 3.5 nF + C cable

L i 7 µH + L cable

MJK CABLE:
C Cable : 0,8 nF / m

L Cable : 1,5 µH / m

Class I, Division 1, Group A-D T4/T5/T6

II 2G Ex ia IIC T6 (-20°C≤Ta≤40°C)
II 2G Ex ia IIC T5 (-20°C≤Ta≤50°C)
II 2G Ex ia IIC T4 (-20°C≤Ta≤80°C)
Demko 06 ATEX 137949X

Specific conditions for use

- Before taking into use, the user shall make an evaluation of the compatibility between process media and the materials in the 1400 or 3400 Expert™ Level Transmitter.
- The equipment must be connected via an approved or certified interface/zener barrier placed out side the hazardous area.
- For installations in which both the Ci and Li of the connected apparatus exceeds 1% of the Co and Lo parameters (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded.
- For model 3400 Expert™ Level Transmitter: **Warning** - Clean only with a damp cloth to prevent the possibility of electrostatic discharge.

The maximum length of the cable is calculated from the Expert pressure transmitters internal capacity (3,5 nF) and internal self-induction (7 µH). The cable capacity (MJK 0,8nF/m) and the self-induction (MJK 1.5 µH/m) is added.

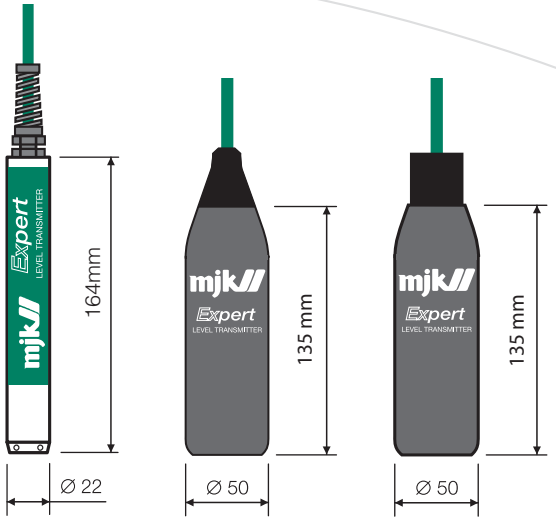
The 2 values are added to calculate the total capacity and the total self-induction. The Ex isolator or Zener barrier is marked with the maximum capacity and self-induction for the connection. These two values must never be exceeded.

Manufactured by MJK Automation ApS, Blokken 9, DK-3460 Birkerød, Denmark

a xylem brand

MANUAL
EN 2.76/2.77 Expert 1400/3400 2007

Expert™ 1400 / Expert™ 3400
Submersible Hydrostatic Level Transmitters



CE Certificate of conformity

This product complies with the requirements concerning electromagnetic compatibility (EMC) stipulated in Council directive no. 89/336/EEC, 2004/108/EC, 1999/EC, on the approximation of the laws of the Member States relating to electromagnetic compatibility.

We declare that the product complies to the values stipulated in EN 61000-6-4 2007-02-19, EN 61000-6-2 2005-09-08, EN 600079-0 : 2012, EN 60079-11 : 2012.

Intertek

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Introduction

Thank you for choosing Expert™ Level Transmitter.

We have done everything possible to make an Expert™ Level Transmitter that can fulfil all your demands.

Expert™ Level Transmitter is suitable for all kinds of level measurements. It can control and supervise levels in wells and tanks - including aggressive and polluted media.

The Expert™ Level Transmitter is both easy to install and put into service, but read this manual first - then you will benefit the most from the Expert™ Level Transmitter right from the beginning.

You can always contact your representative or the MJK Service Hotline for advice and guidance. Also, take a look at http://www.mjk.com.

Expert™ Level Transmitter is registered trademark of MJK.

On the model Expert™ 1400 Level Transmitters, the pressure ranges together with the corresponding part numbers are laser engraved on the transmitter housing.

Expert™ 1400 Level Transmitter

On the model Expert™ 3400 Level Transmitters, the pressure ranges together with the corresponding part numbers are laser engraved on the transmitter housing.

Expert™ 3400 Level Transmitter

Safety instructions

1: Read this manual carefully.

2: Be aware of the environment on the installation site. Wear necessary protective equipment and follow all current safety regulations.

3: Do not operate the equipment outside the specified electrical, thermal and mechanical parameters (see datasheet). Install the device only in media for which the wetted materials have sufficient durability. (See datasheet for housing material.)
Max. supply voltage is 30 VDC.

4: Do not connect or use any programming interface/equipment while the Expert™ Level Transmitter is located in an explosion hazardous environment.

Hazardous areas

1: All current local and national standards, regulations regarding installation and use of Ex or hazardous zone approved equipment, certifications and safety instructions for Ex equipment that have been used together with the installation of the Expert™ 1400 and 3400 Level Transmitter must be strictly observed.

2: The use of an approved zener barrier or isolator is mandatory when installing Expert™ 1400 and 3400 Level Transmitter in explosion hazardous areas.

Repair

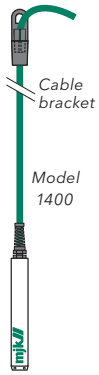
1: Repair of Ex approved equipment must only be done by MJK or by a service representative approved by MJK.

Mechanical mounting

Expert™ Level Transmitter model 1400

1: Mount a suitable hook over the desired measuring location. Note the weight of the cable.

2: Lower the Expert™ Level Transmitter into the liquid.



Expert™ Level Transmitter model 3400

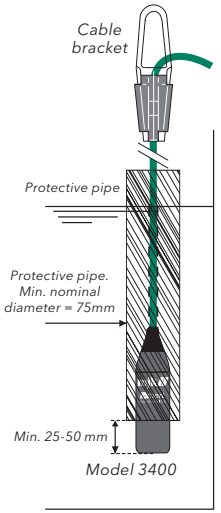
1: Mount a suitable hook over the desired measuring location. Note the weight of the cable.

2: Lower the Expert™ Level Transmitter into the liquid.

3: If the Expert™ Level Transmitter is to be used in a wetwell or other locations with turbulence or other disturbance, it is advisable to install a pipe (min. nominal diameter = 75 mm) to protect the Expert™ Level Transmitter from bumping into the wall or other components.

Take care not to hit the bottom hard since it may damage the Expert™ Level Transmitter!

It is very important that minimum 25 mm of the Expert™ Level Transmitter is not covered by the pipe!

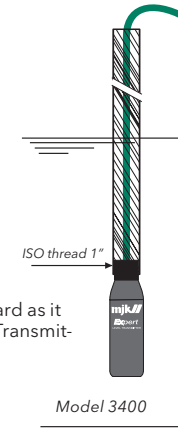


Expert™ Level Transmitter model 3400 with thread top

1: Mount the Expert™ Level Transmitter onto a 1" pipe and mount the pipe firmly at the desired measuring location.

2: Lower the Expert™ Level Transmitter into the liquid.

Take care not to hit the bottom hard as it may damage the Expert™ Level Transmitter!



Electrical mounting

Cable length vs. supply voltage

The cable can be lengthened with any type of cable1). Although the measuring signal is not sensitive to electrical noise, we recommend the use of a screened cable.

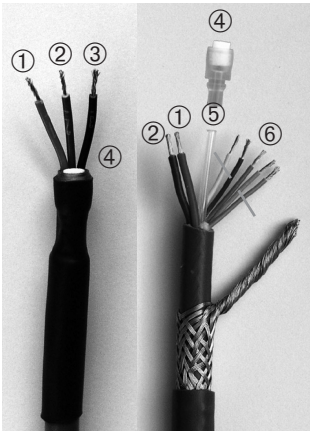
Ensure that no moisture can enter the pressure compensation tube inside the cable.

Designation of wires, cutting & stripping the cable

The factory delivered cable has the wires marked with the numbers 1 - 2 - 3. If the cable needs to be cutted and stripped, the shield should be connected as the no. 3 wire.

Do NOT connect any of the colored programming wires as it may damage the transmitter. The programming wires should be cut off in different lengths to prevent them from short circuit2).

Take care not to block or squeeze the air pressure compensation tube.



Factory delivery Cutted and stripped

No.	Wire Color	Description
1	Red or White	+ 10-30 V DC
2	Brown	4-20 mA (-supply)
3	Black	P/E Connection (Ground)
4		Moisture filter
5	Transparent	Air pressure compensation tube
6		Programming wires

1) If the cable is extended, the complete capacity and self-induction cannot exceed the maximum specifications. For UL or Ex approved mounting, see control drawing on the next page.

2) Do not connect a programming unit to the Expert™ Level Transmitter or make any attempt to program the Expert™ Level Transmitter while it is located in an explosion hazardous zone!