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Introduction:

Thank you for choosing Expert™ level transmitter 1400, 3400 and 3400D.

We have done our best to design and produce a quality level transmitter to meet your requirements. To ensure the best result MJK recommends that the user reads this manual to become familiar with all features, functions and details of the Expert™ level transmitter 1400, 3400 and 3400D.

Install and use the Expert™ level transmitter 1400, 3400 and 3400D as instructed by the manufacturer, MJK, to ensure reliable operation and accurate measurements.

You can always get in touch with your supplier or with an MJK support hotline for advice and guidance:

Visit our website www.mjk.com to read more about MJK, our other products and the people behind.

Expert™ is a registered trademark with MJK, Denmark.

MJK is a Xylem Brand.

Preparation for connecting level transmitter to pc

Expert Link support only communication with Expert™ level transmitter 1400, 3400 and 3400D.

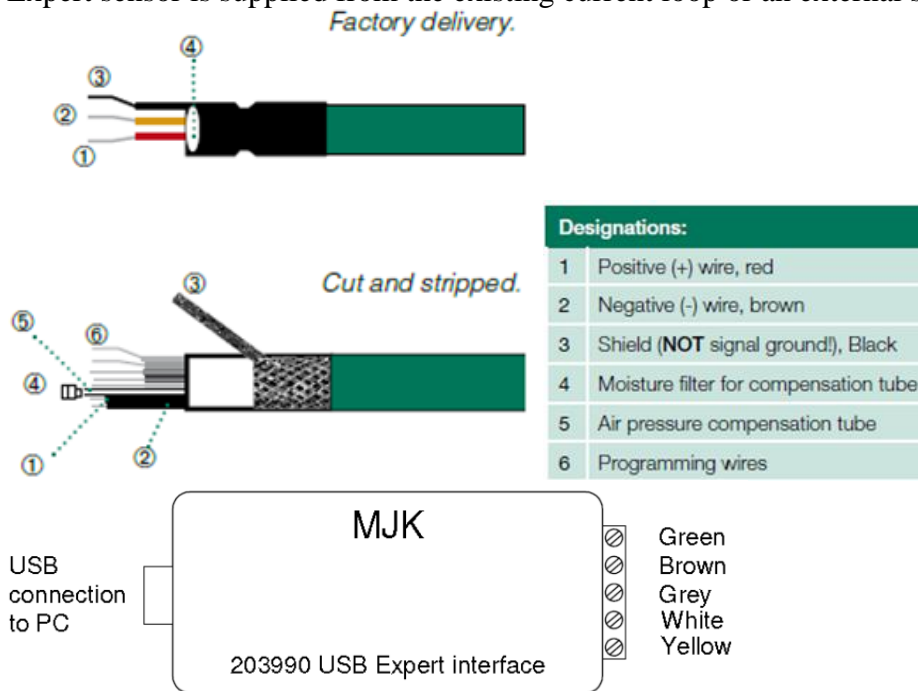
Other MJK Level transmitter needs to be configured with the PC software delivered with the sensor or downloaded for the individual sensor from MJK website. (www.mjk.com)

Expert Level transmitter 1400, 3400

Sensor only supports level transmitting as a current output between 4 – 20mA.

Expert™ Link only support connection to one level transmitter at the time.

Expert sensor is supplied from the existing current loop or an external supply.



Expert Level transmitter 3400D

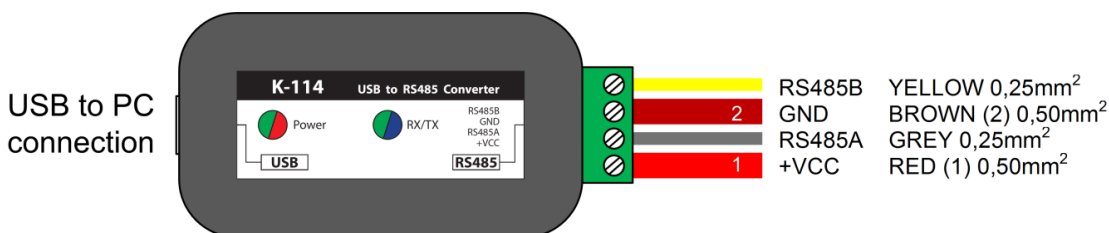
Sensor only supports digital communication as Modbus RTU with RS485 half-duplex.

Expert™ Link only support connection to one level transmitter at the time.

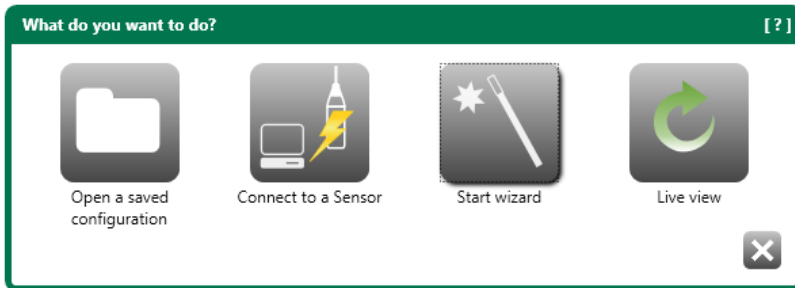
It is important that only one level transmitter is connected to the “USB to RS485 converter”.
Connection will fail, if multiple sensors are connected to the same “USB to RS485 converter”.

Connection to USB to RS485 converter

No external supply is necessary, the “USB to RS485 converter” will power level transmitter from the PC USB power.



Using Expert™ Link

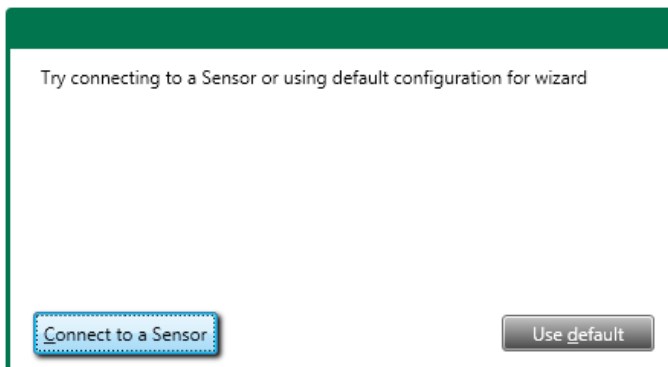


Start wizard

“Start wizard” is used when the level transmitter is configured for the first time.

It is recommended to have the level transmitter connected when using wizard and use “Connect to a sensor”

It is possible to use wizard without a level transmitter connected. (“Use default”)



Connect to a Sensor

“Connect to a Sensor” is used when the level transmitter is configured and measurement view or additional configuration has to be done.

Open a saved configuration

“Open a saved configuration” is used when a level transmitter configuration is already saved. No connection to a sensor is needed for using this.

Expert™ Link buttons



Open saved configuration for view or writing to level transmitter



Save configuration from level transmitter



Open help documentation



Read configuration from a connected level transmitter.



Write changed configuration to connected level transmitter.

A change in configuration view is not automatic written to level transmitter.

This “Write to sensor” has to be done before the changed configuration is transmitted to the sensor.



/ Connect / Disconnect communication to level transmitter.



Start level transmitter configuration wizard.



/ Live view of measurement / Go to main screen and stop live view.



/ Go back to see loaded configuration.

Open functions



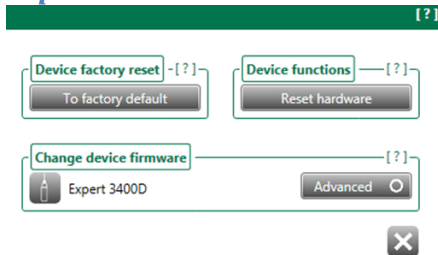
Open Function for download new firmware or other action related to level transmitter.

If connected to sensor the firmware download is hidden if Level transmitter firmware is the same as embedded in this program.

Expert 1400 / 3400



Expert 3400D



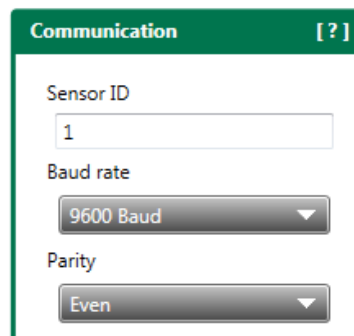
If not connected to an Expert 3400D sensor, only the firmware download will start. This is implemented to support fix sensor firmware if download is failed.

To factory default (Only supporting Expert 3400D)

Return all level transmitter configurations to factory default (except the communication setup like ex. ID, Baud rate, parity).

This has to be done manually to avoid issues, if it sensor is expected to be reinstalled in the same network after reconfiguration.

Default communication setup is.



Reset hardware (Only supporting Expert 3400D)

Force level transmitter to reset / reboot hardware.

Program function



Special program function, that is not related to a sensor.

Manual program update check



Check for Expert™ Link update now. It will auto check every 30 days.

Copy or print view



It is possible to copy or print to clipboard for other documentation.

Touch screen or mouse optimized program



Changing program to be optimized for touch screen or mouse.

Communication setup (Only supporting Expert 3400D)

Communication settings are first changed after level transmitter has been power off or forced to “Reset hardware”. (Done in “Functions”)

Communication
[?]

Sensor ID

Baud rate

9600 Baud ▼

Parity

Even ▼

Expert 3400D register list

Modbus function 3 = Read holding registers

U16 = unsigned 16 bit value.

F32 = 32 bit float value.

F32* = 32 bit float value. Is read as swapped words like some older MJK Modbus Pressure transmitter.

STR20 = String with 20 chars.

Register adr.	Register name	type	Explanations
	Legacy Support		To read in Legacy Supported application, Sensor communication parity properly has be changed to "none"
2	Legacy - Raw Level	F32* {High}	Raw Level [Bar]
3	Explained in a line before!	F32* {Low}	Explained in a line before!
8	Legacy - Temperature	F32* {High}	Temperature [°C] **"swapped words" F32 as the other MJK Modbus Pressure transmitter
9	Explained in a line before!	F32* {Low}	Explained in a line before!
#	Device Data		
303	ID Tag	STR20	RTU Name / Location Name Default = "Expert 3400D" Identifier string / text (utf8)
...	...		
312	ID Tag - Last Adr	STR20	
	Raw Sensor Measurement		
400	Raw Sensor Measurement - Pressure	F32 {Low}	Sensor Pressure [bar]
401	Explained in a line before!	F32 {High}	Explained in a line before!
402	Raw Sensor Measurement - Temperature	F32 {Low}	Sensor Temperature [°C]
403	Explained in a line before!	F32 {High}	Explained in a line before!

Register adr.	Register name	type	Explanations
	Scaled Pressure / Level		
600	Primary Value (Pressure / Level)	F32 {Low}	Primary Value = User Pressure [Primary Value - Unit]
601	Explained in a line before!	F32 {High}	Explained in a line before!
602	Primary Value - Unit	U16	Unit: 0 = custom 1 = bar 2 = psi 3 = kPa 4 = mbar 5 = mmHg 6 = inHg 50 = m 51 = cm 52 = mm 53 = ft 54 = inch
	Scaled Temperature		
605	Secondary Value (Temperature)	F32 {Low}	Secondary Value = User Temperature [Temperature - Unit].
606	Explained in a line before!	F32 {High}	Explained in a line before!
607	Temperature - Unit	U16	Unit: 0 = °C, 1 = °K 2 = °F