Honeywell

Q.Sonic –
Ethernet Range Extender (ERE)

Installation Guide

June 2022

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General Installation Requirements

For most applications, the standard Q.Sonic ethernet interface (Q.Sonic Series VI and Retrofit Series III and IV) is sufficient for communication tasks with high data volumes and transmission distances up to 100 meters / 330 feet. If an Ethernet infrastructure is present at the location of a meter or can be easily installed, it is recommended to use standard ethernet for communication.

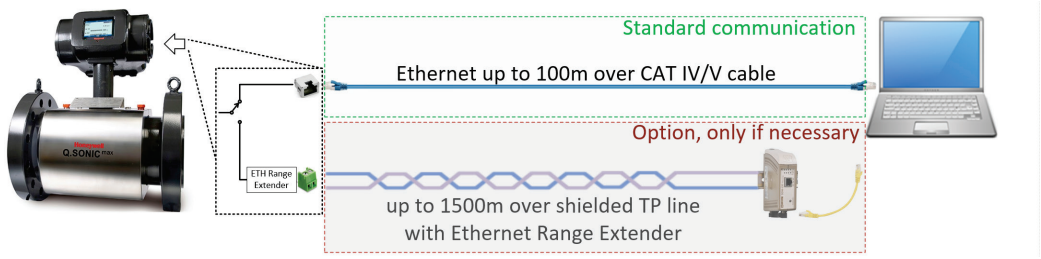
To extend the range for ethernet communication up to 1500 meters / 5000 feet, Honeywell offers an optional Ethernet Range Extender solution (replacing the obsolete VDSL modem), which contains an internal "media converter board" and the external counterpart.

TIP	**IN WHICH CASES IS THE ETHERNET RANGE EXTENDER SOLUTION REQUIRED?** • **A distance exceeding 100 m / 330 ft has to be bridged, or** • **only a two-wire cable / shielded twisted pair is available and an ethernet cable cannot be installed.**

With the optional Ethernet Range Extender, it is possible to extend the range of an Ethernet connection far beyond the 100 m defined for Ethernet.

This can be advantageous in some applications, e.g., when the cost of retrofitting an Ethernet infrastructure exceeds the costs of the range extender or when no Ethernet infrastructure can be retrofitted due to structural restrictions.

There is a switch inside the Q.Sonic meter so that Ethernet can be connected either via the standard Ethernet interface (RJ45 connector) or via the Ethernet Range Extender (terminal block). Simultaneous use is not intended.



Ethernet Range Extender modules are used in both, the Q.Sonic meter and the control room. They provide a transparent Ethernet interface (point-to-point connection) over a wide distance.

	Ethernet	Ethernet with opt. ERE
Max. baudrate	10/100 MBps	
Max. cable length	100 m or 330 ft	1500 m or 5000 ft
Cable type	at least CAT IV SFTP	two-wire cable (shielded TP)

Installation of the Internal ERE Board

The optional Ethernet Range Extender board will be assembled inside Q.Sonic meter in factory. Subsequent installation (retrofit kit) is only possible by our qualified and well-trained Honeywell Elster Service.

Installation of the External ERE

The external ERE Westermo DDW-120 can be easily mounted on standard 35mm DIN rail. No further installation material is required.

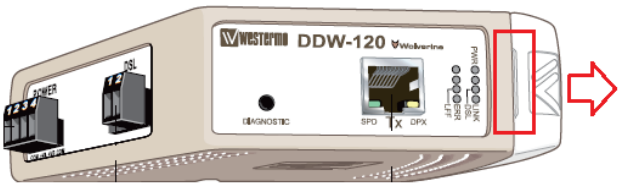
Configuration

The use of the ERE is very easy, since no settings must be made on the internal ERE board. The internal ERE board is designed in such a way that it represents a plug-and-play solution.

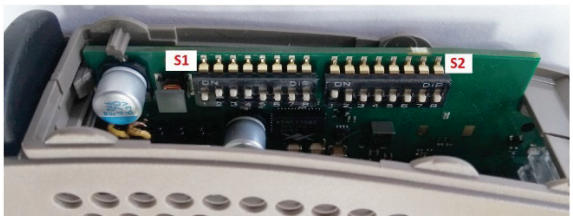
With the DDW-120, only one change needs to be made to the factory default setting. CO (Central Office) mode must be set using a DIP switch. All other settings remain on factory setting.

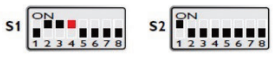
TIP	**PLEASE NOTE!** **The ERE in the control room must be set to "CO" (Central Office).**

Use a slight press with your thumb to remove the cap of the enclosure to open enclosure and get free access to the configuration switches.



Set S1/Pos4 to position “ON” to enable CO-Mode.





The configuration is basically complete with these setting.

For further configuration options please refer to DDW-120 User Guide.

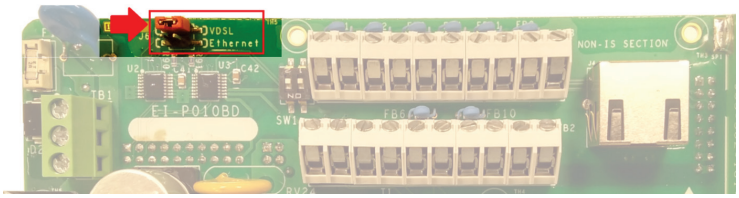
Wiring the Internal ERE Board

Simple (existing) two-wire lines can be used for the wiring. A cable cross-section of at least 0.14mm²/AWG 26 should be used.

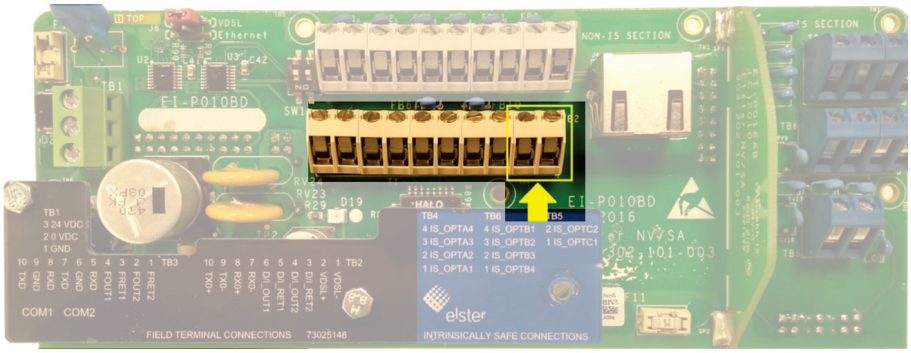
If the cable is shielded, the shield must be proper connected on both sides (inside the cable gland of the Q.Sonic meter and in the control cabinet in the control room). The shielding increases the reliability of the connection and the noise immunity.

The very robust SHDSL technology does not specify the polarity of the wires. The two wires can be connected as desired.

To use the internal ERE board, the jumper on the Field Terminal Board must be set to VDSL* (upper position). This routes the Ethernet communication over the Ethernet Range Extender.



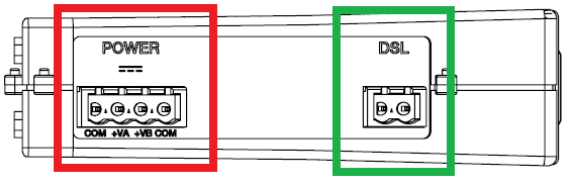
The twisted pair line must be connected to pos. 1 and 2 of connection block TB2 (VDSL+ and VDSL-)*.



* Because Ethernet Range Extender is successor of the obsolete VDSL Modem, some markings and texts on the boards have still “old names”.

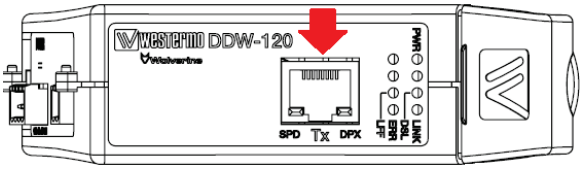
Wiring the External ERE

The connectors for power and DSL are located at the bottom side of the DDW-120. The power supply is redundant, so you can connect 1 or 2 separate power supply lines to the DDW-120.



Connect the positive line (12 to 48 VDC, nom. +24V) to +VA and/or +VB and the negative line to COM.

The Ethernet port of the DDW-120 is on the front panel where a standard RJ45 patch cable can be connected.

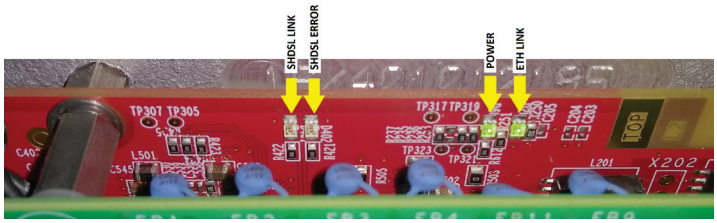


Please note, that the enclosure degree of protection of the DDW-120 is IP21. So, it must be installed in an appropriate environment.

For further information, see DDW-120 user guide.

Status LED Indicators

The internal ERE board has 4 status LEDs:



The main DSL status LEDs of the DDW-120 are the LINK and DSL LED.

LED	On	Off	Flashing
SHDSL LINK	SHDSL link is established	No SHDSL link	Slow: interface is ready for connection establishment Fast: SHDSL negotiation
SHDSL ERROR	FATAL error	No error	FATAL error
POWER	Power ok	No power	–
ETH(ERNET) LINK	ETH link	No link	Communication active

The external DDW-120 has multiple status LEDs

The meanings of the complete status LEDs are described in DDW-120 user manual.

Operation

Since the ERE provides transparent Ethernet connectivity, all protocols that can be used over Ethernet as standard can now also be used over the ERE.

It should be noted that setting up a link via SHDSL can take up to 4 minutes.

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