

Optical Magnetic Couplers

The infrared port on the front of your ION™ meter is compatible with standard magnetic optical communications couplers (ANSI C12.18 Type II). These optical couplers (optical probes) are among many compatible communications accessories that are available from your supplier.

This document outlines the use of probes with the following meters:

- ◆ ION7300 / ION7330 / ION7350
- ◆ ION7550 / ION7650
- ◆ ION8300 / ION8400 / ION8500
- ◆ ION8600

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Introduction

The infrared port available on the ION7300 / ION7330 / ION7350, ION7550 / ION7650, ION8300 / ION8400 / ION8500 and ION8600 meters is compatible with standard magnetic optical communications couplers, also known as optical probes (ANSI C12.18 Type II). These optical probes are equipped with a retention magnet for physical attachment to the optical port on the front of the meter and allow on-site communications with a laptop computer or handheld device.

Optical probes are available from Schneider Electric and from alternate suppliers as a separate product; contact Schneider Electric for a list of qualified suppliers. Original equipment manufacturer's warranty applies.

Configuring the meter's optical port

In ION8300 / ION8400 / ION8500 and ION8600 meters, use the front panel, ION Enterprise™ or ION Setup to set COM3 parameters to match your communications system. This enables communications via the optical port. See “Configuring the ION8300 / ION8400 / ION8500 and ION8600 front panel infrared (optical) port” on page 4 for details.

In ION7300 / ION7330 / ION7350 meters, use the meter's front panel, ION Enterprise or ION Setup to configure the Infrared Comm module. The ION7300 / ION7330 / ION7350 is also capable of energy pulsing through its infrared port. See “Configuring the ION7300 / ION7330 / ION7350 front panel infrared (optical) port” on page 3 for details.

In ION7550 / ION7650 meters, use the front panel, ION Enterprise or ION Setup to set COM4 parameters to match your communications system. This enables communications via the optical port. See “Configuring the ION7550 / ION7650 front panel infrared (optical) port” on page 5 for details.

Specifications for the optical port are as follows:

Specification	Value	Default
Baud Rate	1200 to 19,200 bps ¹	9600 bps
RTS Delay	0 to 1.0 seconds	0.010 seconds
Unit ID	Sets the meter's Unit ID	<ul style="list-style-type: none"> ◆ 102 (ION8600 and ION8300 / ION8400 / ION8500) ◆ From serial number² ◆ 103 (ION7550 / ION7650)
Supported Protocols	Varies depending on meter type and model	ION

¹ Higher baud rates may be possible but are not supported by all meter and probe combinations.

² ION7300 / ION7330 / ION7350 only (i.e. if the s/n is PB-0311A123-11, the default Unit ID is 1123).

Refer to the appropriate sections of your User Guide for more detailed information.

Configuring the ION7300 / ION7330 / ION7350 front panel infrared (optical) port



1. From the Select Setup menu, choose QUICK SETUP > INFRARED COMM.
2. Configure the Infrared Comm communications module *Baud Rate*, *Unit ID* and *Protocol* setup registers to match your communications system.

Optical Port Setup for Energy Pulsing (ION7300 / ION7330 / ION7350 only)

To configure the optical (infrared) port for energy pulsing, you must set the Infrared Comm communications module *Protocol* register to INFRARED I/O. Use the meter's front panel, ION Enterprise or ION Setup to set the IR pulsing.

Setting IR Pulsing using the Front Panel

1. From the Select Setup menu, choose QUICK SETUP > INFRARED COMM > IR1 PROTOCOL > INFRARED I/O.
2. From the Select Setup menu, choose ADV METER SETUP > CALIBRATION PULSER MODULES.
3. Select the module you want to use for pulsing (kWh imp Pulse, for example).
4. Choose the *Port* setup register from the menu provided, then select IR LED.

Setting IR Pulsing using ION Setup

1. In the Setup Assistant, choose **Energy Pulsing > kWh Import**.
2. Select the *Port* register and click **Edit**.
3. Select IR LED and click **OK**.

Setting IR Pulsing using Designer

1. Set the Infrared Comm communications module's *Protocol* setup register to INFRARED I/O.
2. Send and save the configuration change to the device.
3. Set the *Port* setting of any Pulser module to IR LED.
4. Send and Save.

NOTE

The optical port cannot be used for energy pulsing and for communications at the same time.

Configuring the ION8300 / ION8400 / ION8500 and ION8600 front panel infrared (optical) port

1. Press and hold the **Alt/Enter** button for a few seconds. The Setup Menu appears.
2. Use the **Up** and **Down** softkeys to select COMM 3 SETUP.
3. Configure the COMM 3 *Baud Rate*, *Unit ID* and *Protocol* parameters to match your communications system.

To configure the ION8300 / ION8400 / ION8500 and ION8600 meter for optical port communications via ION Enterprise or ION Setup, see your software's documentation or online help for more information.

Configuring the ION7550 / ION7650 front panel infrared (optical) port

1. Press the **Prog/Select** button to enter Setup Mode.
2. Use the **Up** and **Down** arrow keys to select COM4 SETUP.
3. Configure the COM4 *Baud Rate*, *Unit ID* and *Protocol* parameters to match your communications system. Press the **Esc** button to exit Setup Mode.

To configure the ION7550 / ION7650 meter for optical port communications via ION Enterprise or ION Setup, see your software's documentation or online help for more information.

Using Abacus Electrics Optical Probes

Using the Abacus Electrics A6Z-P-D09F Optical Probe

The A6Z-P-D09F derives all necessary power from the host computer serial port.

Ensure the 9-pin female “D” connector is connected to the appropriate COM port on your laptop or handheld device.

This probe is compatible with ION Enterprise and ION Setup operating at their default settings, including:

- ◆ **ION Enterprise:** ensure DTR and RTS/CTS are disabled.
- ◆ **ION Setup:** ensure DTR is disabled (or forced off) and toggle RTS Control.

The probe’s optical connection is equipped with a retention magnet for onsite communications.

Using the Abacus Electrics A9U-P-U04M Optical Probe (USB)

The A9U-P-U04M is a USB 1.1 and USB 2.0 compliant device that derives all necessary power from the host computer. For use with Windows 98/2000/XP only.

This probe comes supplied with “virtual serial port” drivers. Follow the manufacturer’s instructions when installing virtual serial port driver software. Ensure the USB is connected to the appropriate COM port on your laptop or handheld device.

To use this probe with:

- ◆ **ION Enterprise:** ensure DTR and RTS/CTS are disabled.
- ◆ **ION Setup:** ensure DTR is disabled (or forced off) and toggle RTS Control.

Using ION Enterprise or ION Setup to configure DTR and RTS/CTS settings

Some optical probes may require you to “force off” DTR (Data Terminal Ready) and toggle RTS/CTS to ensure proper communication. Use ION Setup, ION Enterprise or other third-party software to configure these settings.

Forcing off DTR and toggling RTS Control via ION Setup

To force off DTR and toggle RTS Control using ION Setup, perform the following steps:

1. Run ION Setup. In the Connection Type window, select **Serial**.
2. Click **Settings** to access the Site Properties dialog box. Select the **Timings** tab.
3. Set **RTS Control** to "Toggle" and **DTR** to "Force Off". Click **OK**.
4. Continue to configure your serial settings as required.

Disabling DTR and RTS/CTS settings via ION Enterprise

To disable DTR signaling and RTS/CTS in ION Enterprise, perform the following steps:

1. Open Management Console and connect to the device.

NOTE

For details on connecting to and configuring a serial device, see the ION Enterprise online help.

2. Select **Sites** and right-click the site to which the device belongs. Select **Configure Site**. The Configure Site dialog box appears.
3. Set **Use DTR** to "No" and **RtsCts** to "No". Click **OK**.