

DATTUS III Pulse Output Overview

This document provides a general overview of the DATTUS III meter pulse outputs. This overview focuses on the hardware aspects of the pulse outputs. See the DATTUS III Technical Reference Guide (TDC-0985-XXX) for the information to change the DATTUS III pulse output configuration using the DATTUS-Link software. Pulse output configuration changes include the pulse type, volume per pulse, operating mode, and pulse width.

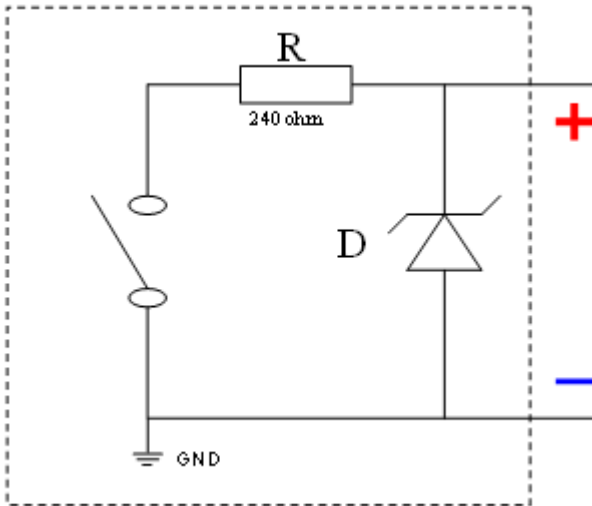
Output Channel Overview

The DATTUS III meter is equipped with four pulse output channels. The following table describes the DATTUS III pulse outputs.

Output Channel	Purpose
1	Channel 1 primary usage is to prove and calibrate the DATTUS III meter. Channel 1 has the capability of Channels 2, 3, and 4 but is factory-programmed as the proving output channel.
2	Channel 2 is a customer-configurable channel. Output Channels 2, 3, and 4 are specifically for user-specified settings.
3	Channel 3 is a customer-configurable channel. Output Channels 2, 3, and 4 are specifically for user-specified settings.
4	Channel 4 is a customer-configurable channel. Output Channels 2, 3, and 4 are specifically for user-specified settings.

Factory-programmed pulse output configuration is listed on the Certificate of Calibration included in the shipping materials with DATTUS III meters.

Electrical Schematic and Connection Specifications



DATTUS III Electrical Output Schematic

All DATTUS III Meter outputs have the following characteristics:

- Non-isolated
- Dry contact
- Open drain N channel field-effect transistor (FET)
- 240 ohm contact resistance (R)
- Common/negative connected to the meter body
- Reverse current protection by a Zener diode (D)

Output Connection Specifications

The DATTUS III meter has the following output connection specifications:

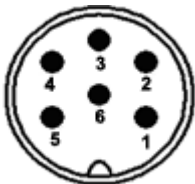
- DC voltage only, up to 35 VDC
- Up to 16 VDC to maintain UL 913 or CSA 22.2 intrinsic safety
- 25 mA maximum current

DATTUS III Hardware Setup

The DATTUS III meter pulse connector is located on the meter face.

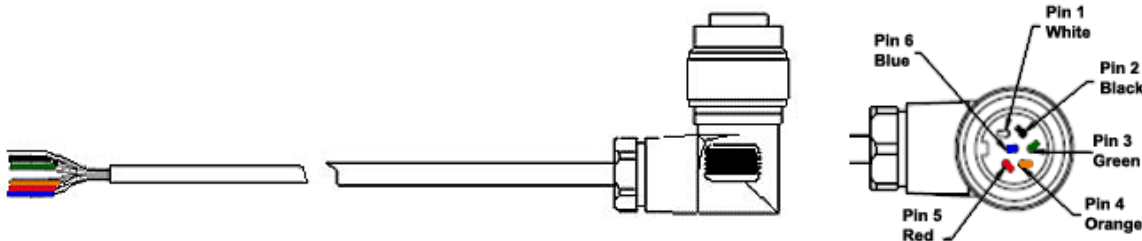


The pulse output connector (PULSE) is a six-pin binder connector. A pulse output cable is required to use the pulse outputs.



Pulse Output Cable Description	Itron Part Number
10-foot pulse output cable	442461-005
20-foot pulse output cable	442461-006

The binder cable connection screws onto the binder connection on the meter. The opposite end of the binder cable provides bare lead connections.



Pin	Wire Color	Function
1	White	Output 2 (+)
2	Black	Output 4 (+)
3	Green	Ground (-)
4	Orange	Output 3 (+)
5	Red	Output 1 (+)
6	Blue	Ground (-)



Note Both the blue and green wire ground connections are joined and connected to the DATTUS III meter body. All channels have a common ground and are non-isolated.

Addressing DATTUS III Meter Special Applications

The standard output cable and setup will work in most applications, however; there are times the requirements for the device being connected to the DATTUS III are not directly compatible with the type of pulse offered by the DATTUS III meter. This will most likely occur in industrial applications where a wider range of devices are used, for example:

- The 240 ohm contact resistance is higher than the device allowable maximum.
- The device requires an isolated output.
- The device provides AC voltage.
- The device requires a wetted output.

Itron offers optional pulse output cables to address these special applications. The optional cables provide a three-wire connection, but will also work in two-wire connections (to supply contact resistance bypass). The optional bypass cable can be used in conjunction with a power supply to address a wetted output application or the cable can be used with a power supply and relay to address either an isolated output or an AC voltage application.

Optional Open SourceP - Channel MOSFET Pulse Output Cable Description	Itron Part Number
10-foot pulse output cable	442461-007
20-foot pulse output cable	442461-008

The optional pulse output cable has connections for outputs 3 and 4. Output 3 is the only output with the open sourceP - Channel MOSFET. Channel 4 is a standard output connection. The following table describes the optional cable lead wire functions.

Output	Wire Color	Function
3	Red	Power supply (+)
	White	Signal
4	Black	Output 4 (+)
Common to both	Green	Power supply (-) and ground for outputs 3 and 4



Caution The maximum power supply voltage for the optional pulse output cable is 18V DC due to the operation of the transistor and the interaction with the output circuitry Zener diode.

For applications where the device has a two-wire connection (+ and -) but contact resistance is the issue:

- Connect the red wire to + on the device.
- Connect both the signal (white) and ground (green) to negative/common.

If your application is a device voltage about 18V, is an AC device, or requires an isolated output, Itron recommends the use of a relay in conjunction with this cable and a separate power supply. Connect the device to the relay thereby separating the device circuit from the DATTUS output circuit.

For assistance with the DATTUS III pulse output connections or questions, contact the Owenton Itron facility and ask for DATTUS technical support. Please have as much information as possible about the technical requirements of the device being connected to the DATTUS III meter.