

Electronic Truck Register

Trac-40

Features

- Rugged
- Temperature compensation
- Complies with international metrology standards
- Prints delivery tickets
- Nema 4X or IP65 enclosure

Applications

- Petroleum tankers with metered deliveries
- LPG trucks
- Aircraft refuelling
- Anhydrous Ammonia
- Chemical trucks
- Heating Oil trucks



Overview

In truck applications where electronic registers must be able to operate in adverse conditions, the Trac-40 offers an economical solution for flow measurement & control.

Designed to operate with turbine, positive displacement or coriolis flowmeters, the Trac-40 meets the requirements for custody transfer of liquids throughout the world.

Based on Contrec's 400 Series instruments, the Trac-40 includes:

- Rugged facia and switches.
- Robust connectors.
- Backlite display.
- Mounting feet.
- Conformal coated electronic assemblies similar to those used by the military.

Specifically designed for truck installations, the Trac-40 is a register that will survive in the toughest of environments for electronics.

Preset or Start/Stop Mode

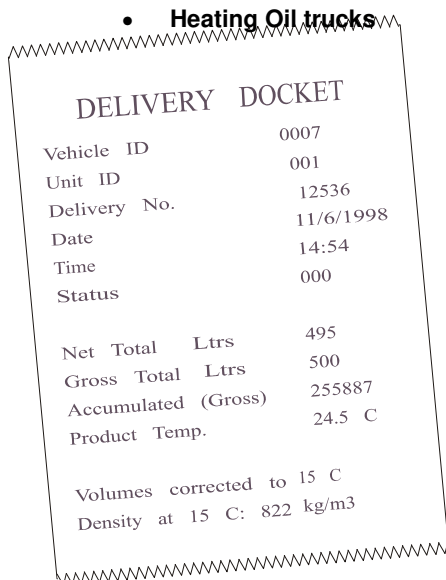
The Trac can be programmed to operate as either a Preset system where the required quantity is entered prior to a delivery, or as a Start/Stop system where an unspecified quantity can be delivered.

Both modes have relay outputs which can be used to control pumps and valves.

Custody Transfer Approval

The Trac includes a dual pulse integrity check of the input signal and temperature compensation to API Tables as required for custody transfer.

Temperature compensation is selectable to include compensation for general petroleum, LPG or other products. If temperature compensation is not required it can be disabled.



Truck Interlocks

Because the Trac is designed for truck applications, special features, unique to truck applications, are incorporated into the system including:

- A low frequency input cutoff which will ignore
- spurious flowmeter pulses which may be caused by pipe vibration as the vehicle travels between deliveries.
- A transaction timeout which is incorporated into the software to prevent a partial delivery at one location and then a continued delivery at a second location without resetting the register (termed "riding the ticket").
- Delivery totals continue to be displayed even if power is disconnected.

- A printer integrity test which will signal an error message if there is a printer problem.
- 12 Volt dc and 24 Volt dc operation.

Communications

The Trac-40 can operate in one of the following modes:

1. Printer only

Interfaces to an industry standard slip printer or standard line printers.

2. On-board computer

With an on-board computer, transaction results can be uploaded to the computer at the end of the delivery.

Physical

Displays

Batch Total: 6 digit (11.8mm high) backlit LCD with automatic ranging.

Keypad Buttons

Switches: Four heavy duty switches.
Weights & Measures Seal: A program access switch, located behind a screw on the rear facia, can be affixed with a lead seal to prevent tampering.

Standard Enclosure

Dimensions: 144mm (5.7") wide x 72mm (2.8") high x 190mm (7.5") deep. The connector backshells will extend the depth to 235mm (9.3").

Material: Anodised aluminium.
Sealing: IP66 (Nema 4X) weatherproof.
Weight: 1.5 kg (approx).
Cable Connection: Four "D" style connectors.

Explosionproof Enclosure

Dimensions: 285mm (11.2") wide x 287mm (11.3") high x 231mm (9.1") deep.
Approvals: CENELEC and CSA^{NRTL/C} applied for.

Operational

Power Requirements

12 Vdc to 28 Vdc. 3 watt maximum.

Operating Temperature

-10 to 60 °C.

Communications

Dual RS232 shared port.

Interference

CE compliance.

Inputs and Outputs

Flow Inputs

Input Frequency: 0 to 10kHz with single pulse input.
0 to 2kHz with dual (quadrature) input.
Note: Dual pulse is for pulse verification only and does not detect reverse flow.

Pulse Integrity (Dual pulse only)

If a pulse failure is detected the system will alarm and stop flow on that channel.
Note: This is in accord with API Standards, Chapter 5, Section 5; AS2702 - 1984; and ISO6551 - 1982.

K-factor - Linear:

Single point 0.001 to 50000.0.

- Non-linear:

10 points 0.001 to 50000.0.

Temperature Inputs

Input Signal: RTD (4 wire).

Range:

LPG -45 °C to 60 °C (-49 °F to 140 °F).
Petroleum -100 °C to 200 °C (-148 °F to 392 °F).
General Liquids -273 °C to 200 °C (-459 °F to 392 °F).
Anhydrous Ammonia 0 °C to 40 °C (32 °F to 104 °F).

Input Circuit: 12 bit A/D converter.

Correction:

To API Table 24B/54B for gasoline, diesel, jet fuel; Table 34/54 for LPG; and Table 24A/54A for crude oil.
Also correction for anhydrous ammonia is available.

Valve Control Outputs (Dual stage on/off)

Max contact voltage: 30 Vdc or 30 Vac.

Max current: 3A.

Pulse Output

Scaled pulse output.

Pulse Width: 10 mSec.

Maximum Frequency: 49 Hz.

Important: Specifications are subject to change without notice.

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