

# Fuel Counter Connection and Configuration for the FM-Pro4 and FM-Tco4 Devices

Fuel counter operation logic and configuration when using it with the Ruptela's 4th generation devices FM-Pro4 and FM-Tco4 has changed from the logic that was used with Ruptela's 3rd generation devices. Changes are described below.

## New fuel counter operation logic

1. "Fuel Counter 1" (IO # 18) and "Fuel Counter 2" (IO # 19) have to be enabled in the IO parameters. After the counter initialization the old values of these parameters stored in the counter register are deleted. (Counter register values are set to zero.)
2. During the counter operation each new incoming impulse increments the value of the counter register by one.
3. When the record is being generated values of the associated counters registers are read and included in this record. These values are also temporarily stored. Note that even if "Data collection" is enabled, these records won't be saved to the internal memory.
4. If the generated record is saved to the internal memory and if this record contains values of one of these IO parameters, then the device has to check:
  - a. Whether this record was triggered by this IO parameter - associated counter register is cleared.
  - b. Whether this IO parameter is configured NOT "on event" - associated counter register is cleared.

## Important

When the value of the counter register is cleared it does not mean that it is simply set to zero. Instead the current value in the register is cross checked with the previous value, which was obtained when the last record was being generated. This helps to determine how much the value in the counter register has increased since then.

In the following step, the previous register value (stored in the last record) is subtracted from the current value. This way we do not lose the amount that was not included in the record.



### Contacts:

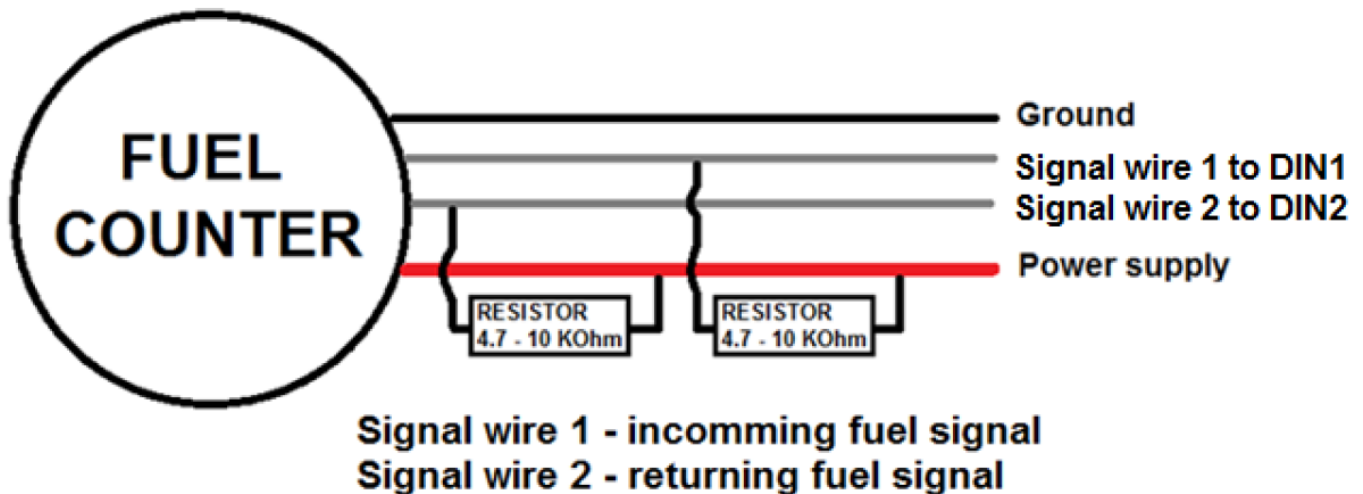
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## Connection

Connect "Signal Line" outputs of the counter to the DIN1 and/or DIN2 inputs of the FM-Pro4/FM-Tco4 device. Signal lines depend on fuel counter type, usually there are one or two signal lines - one for incoming fuel and one for returning. On some fuel counters an additional line from a power supply to the signal line is required (*shown in scheme below*):



## Configuration

After a physical connection, your device must be configured accordingly.

1. In the FM4 Configurator choose your device: FM-Pro4 or FM-Tco4.
2. Click on the IO events "Options" button.
3. Select a free slot ("*Disabled*") for the IO.
4. Put a tick on "Enable".
5. Select "*Fuel Counter1*" ID in the list. This one ID is enough if your fuel counter has no returning fuel counting feature. If your fuel counter has the returning fuel counting feature, then both "*Fuel Counter2*" and "*Fuel Counter1*" has to be enabled.
6. Select "Event on: *Monitoring, Change or Hysteresis*". For these IO parameters only "*Change*", "*Hysteresis*" and "*Monitoring*" properties are working. "*Average*" property has no effect on the counter register values since averaging is not applied for these IO parameters.
7. Do NOT put a tick on "Include data only on event", this option cannot be used.

Close this window and send configuration to the device using the configurator.

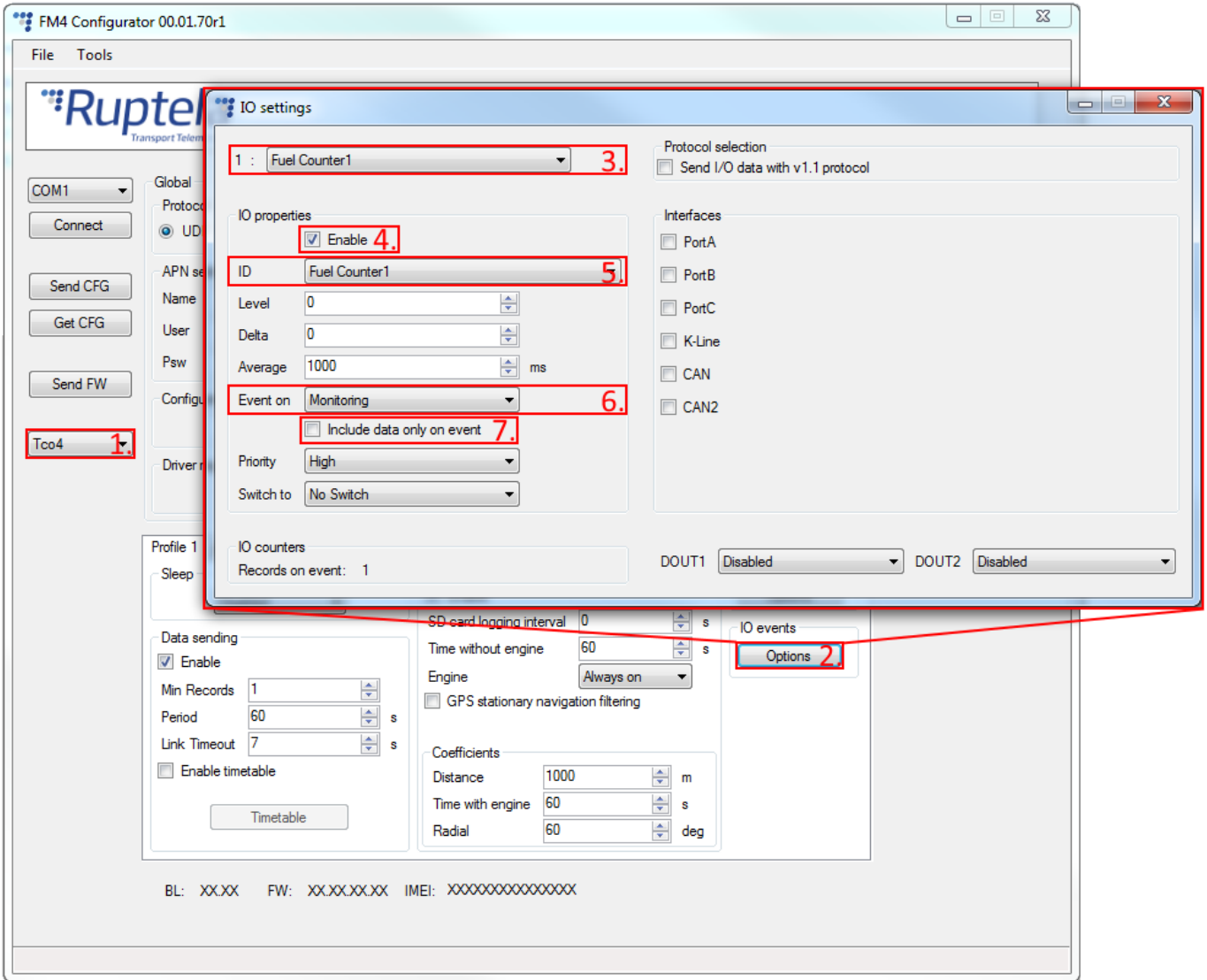


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