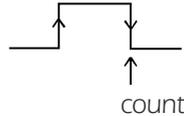


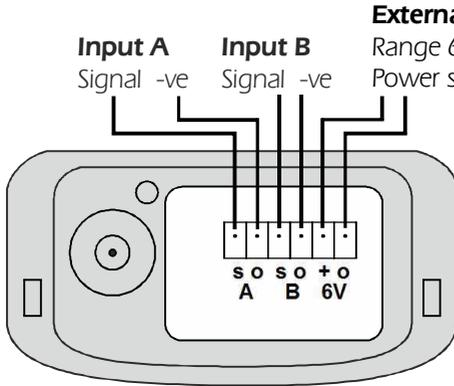
# TU 1003 User Instructions for GC-62 transmitter

## Product summary

- 2 x pulse inputs (voltage free or digital)
- Maximum pulse rate is 250 Hz.
- A maximum of 65,000 pulses can be counted every logging interval. When the maximum count is reached the counter rolls over and continues counting.
- At the (random) transmission time, the value of the pulse count register is transmitted.
- The pulse input can be voltage input or voltage-free contacts (<1V = low, >2.7V = high).
- The counter increments on the falling edge of a pulse:



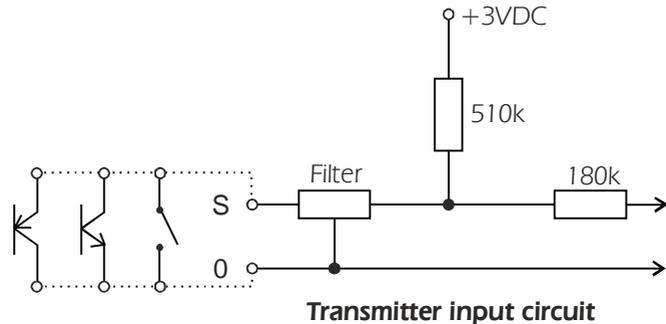
## Wired connections



When external power is applied (and if greater than the internal battery voltage), the external power is used. If external power fails the internal batteries will power the transmitter.

## Input type

open collector npn /  
open emitter pnp /  
contact closure



Transmitter input circuit

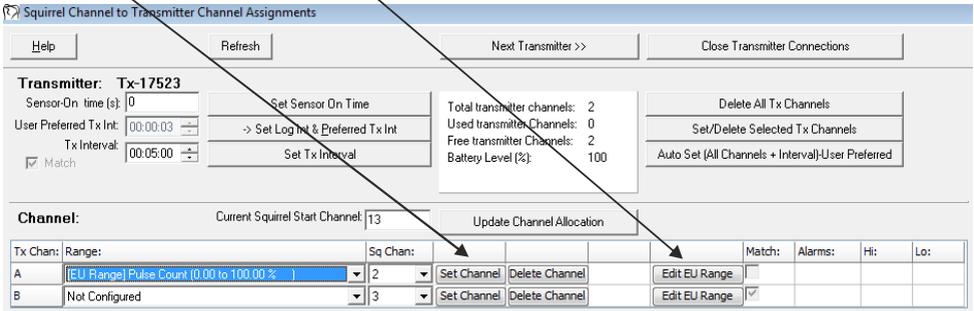


# TU 1003 User Instructions for GC-62 transmitter

## Worked example with a PRO1TE connected to input A

PRO1TE is an electricity energy meter with a pulse output providing 2000 pulses /1000Wh. This equates to 1 pulse per 0.5Wh. 0.5 will be the value **B** in the formula below, and one decimal point resolution is required.

In the **Squirrel Channel to Transmitter Channel Assignments** window, click **Set Channel** and then **Edit EU Range** for the appropriate transmitter channel.



1. Ensure **Hardware Range** is as shown:

2. Set **Maximum** to 32500

3. Leave or set **Minimum** at 0

7. Check **Sample** is range as required

6. To calculate **Count Limit**, use the formula

Count Limit =  $A / (B \times C)$ , where:

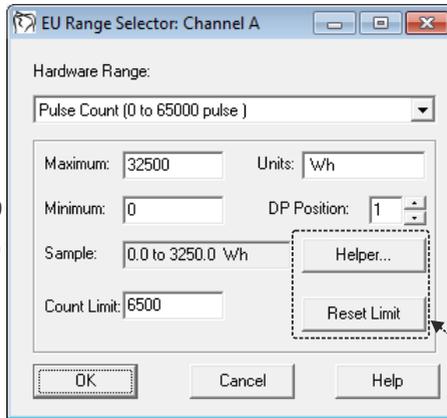
**A** = Maximum (32500)

**B** = Value per pulse (0.5Wh)

**C** = Factor calculated from DP Position:

DP Position	C
0	1
1	10
2	100
3	1000
etc.	etc.

$$= 32500 / (0.5 \times 10) = 6500$$



4. Overwrite **Units** as appropriate e.g. Wh

5. In **DP Position**, Enter number of decimal points needed.

do not use

Click **OK** to close the window when you are finished.

Note: to redo the above example with the units as **kWh** instead of **Wh**:

- The value per pulse is now 0.0005 kWh.

- The **DP Position** should now be set to 4 because we're scaling everything down by 1000.

- Thus, the **Count Limit** remains the same:

$$32500 / (0.0005 \times 10000) = 6500$$

# TU 1003 User Instructions for GC-62 transmitter

Your new configuration will appear in the **Squirrel Channel to Transmitter Channel Assignments** window:

**Squirrel Channel to Transmitter Channel Assignments**

Help Refresh Next Transmitter >> Close Transmitter Connections

**Transmitter: Tx-17523**  
Sensor-On time (s): 0  
User Preferred Tx Int: 00:00:03  
Tx Interval: 00:05:00  
 Match

Set Sensor On Time  
-> Set Log Int & Preferred Tx Int  
Set Tx Interval

Total transmitter channels: 2  
Used transmitter Channels: 0  
Free transmitter Channels: 2  
Battery Level (%): 100

Delete All Tx Channels  
Set/Delete Selected Tx Channels  
Auto Set (All Channels + Interval)-User Preferred

**Channel:** Current Squirrel Start Channel: 2 Update Channel Allocation

Tx Chan:	Range:	Sq Chan:	Match:	Alarms:	Hi:	Lo:
A	[EU Range] Pulse Count (0.0 to 3250.0 Wh )	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
B	Not Configured	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

**Squirrel: K01139-10380**

Save Configuration Delete Channels Transmitter Setup Send to Squirrel

Channel	Ident	Input	Range	Unit	Transmitter ID	Transmitter Channel	Transmitter Interval	Hi Alarm	Lo Alarm
1	Channel 001	State	0.0 to 1.0		17459	A	00:00:03		0.0
2	Channel 002	Pulse Count	0.0 to 3250.0	Wh	17523	A	00:05:00		

Check that the Squirrel Channel and Tx Channel detail is as required. Click **Next Transmitter** to set up additional transmitter channels or **Close Transmitter Connections** if you have set up all the channels you require.

## Technical note

Logger pulse channels are not reset to zero when logging is started. This is so that during stop/download/reset/restart of the logger, counts from connected sensors are not lost. Consequently, when a system is first started after configuration or a period of no use, no transmissions have been received from the transmitters, so the first reading logged on a pulse count channel will be meaningless. If you want the first recorded value to be meaningful, then do the following:

1. Start the logger logging
2. Wait for at least 2 transmission intervals so that a value is definitely received from each pulse transmitter channel
3. Stop logging
4. Reset and restart the logger

The first value logged will now represent the pulses counted between the first two received transmissions.

## Eltek

Specialist Data Loggers  
Eltek Ltd, 35 Barton Road, Haslingfield  
Cambridge, CB23 1LL, England  
Tel: +44 (0) 1223 872111  
Fax: +44 (0) 1223 872521  
email: sales@eltekdataloggers.co.uk  
http://www.eltekdataloggers.co.uk