

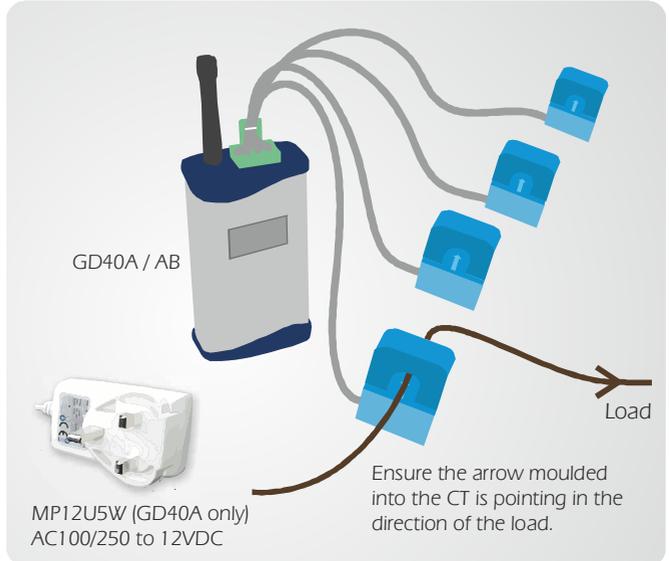
# Eltek TU1038 - User Instructions for GD40A / AB transmitters

The GD40A / AB sensor inputs are designed for ND Meter SxD self powered CTs. The transmitter is intended for use in situations where an averaged rather than instantaneous value at the time of transmission is required. The averaging technique includes values that can change during a transmission interval. At the point of transmission the averaged value of the last 30 values, sampled every 10 seconds per channel, is sent.

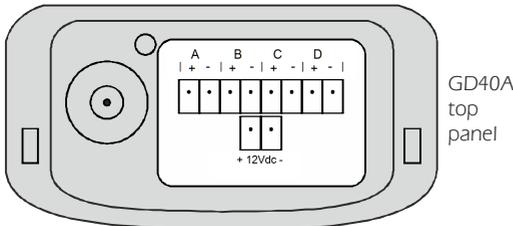
This application is for the GD40A / AB used with the self powered current transformer type SxD. Each of the transmitter's four inputs (A B C and D) has a single hardware range of 0-6VDC and an EU (Engineering Units) range which is configured to match the range of the connected SxD. This is achieved with the GenII transmitter setup section within the Darca software (see overleaf).

The GD40A / AB can be powered by the MP12U5W external 12VDC supply for extended use. The internal battery pack is for short term use only and provides typically 10 weeks operation at a 5 minute tx interval.

The GD40AB can be powered by an external 9V battery e.g. Eltek type SP1196 (9V / 10Ah) for extended (typically > 1 year) of operation .



## GD40A / AB top panel connections



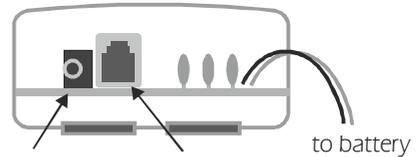
**Inputs A - D:** Observe sensor polarity. Each input is relay isolated. CTs share a common ground.  
**+12Vdc-** (GD40A) or **+9Vdc-** (GD40AB): Connect external supply. Positive lead is identified by a red sleeve.

Note: When renewing batteries (and especially if the transmitter is no longer operating), ensure you allow one minute with no batteries connected before installing new batteries. This is to ensure transmitter performs a power-on reset.

### To enable (switch on) the transmitter:

Insert a small diameter tool (e.g. an unfurled paper clip) into the rear access aperture and press the switch down for 5 seconds. To disable (switch off) the transmitter, repeat the above.

## Internal connections



**Configuration socket.** 3.5mm "stereo" jack socket.  
**SK4:** factory use only

# Setting up a GD40A / AB for the SXD clip-on CT

Refer to the Quick start guide to initially set up the RX250AL.

Note: The GD40A / AB transmits the rolling average value from the CT.

Each of the four GD40A / AB inputs can be connected to a self powered CT (type SXD). SXDs are available for 5/10/20/30/50/100 and 200A ranges. The SXD can operate at x1.2 over-range but continuous operation should be limited to the specified range. Observe SXD connection polarity: Black is +ve and Black/White is -ve.

Each SXD provides 0-5VDC for its specified range. The GD40A / AB provides a single 0-6VDC range for this application. This does mean the over-range feature of the SXD can be included. The GD40A / AB resolution is > 3,000 steps for 0-6VDC.

## Setting up the GD40A / AB with the Darca software

- Connect the GD40A / AB to the PC using the LCTX3 lead (and RS232/USB convertor if required).
- Open **Contact Wizard**, select **GenII Setup/Transmitter Setup > Next > Next**, select **Modify the Transmitter setup based on the current Squirrel set up (Normal) > Next**. Note block transferring Window.
- In **Squirrel Channel to Transmitter Channel Assignments**, click **Transmitter Setup > OK/Connect**. (Ensure correct COM serial port assigned and follow on screen instructions.)
- Observe you are now in a new window: **Squirrel Channel to Transmitter Channel**, with the upper pane about TX setup.
- First, click **Set Log Int and Preferred Tx Int** and follow the instructions.
- TX Channels A, B, C or D can then be set as follows:

The **Hardware Range** drop down list contains 7 current ranges **0-6A, 0-12A, 0-24A, 0-36A, 0-60A, 0-120A** and **0-240A** (each of which includes the over-range feature). Select the range you require. If the range you require is not in the list, you need to configure an EU range on this channel:

- In channel A, select **(EU Range) .....** from the drop down list. Click **Set channel**, then click **Edit Eu Range**. The **EU Range Selector : Channel A** window will now appear.
- Let's assume we are using a CT with a range of 0-300A (equivalent to 0-5V). The manufacturer states that the readings are accurate to 2 decimal places over the range 0-300A. We therefore need to scale our 0-5VDC range on the transmitter to 0-300.00A.
- The **Minimum** of the range is 0, since our 0-300.00A range starts at 0.
- The **Maximum** value we enter for the EU Range will be scaled down afterwards by factors of 10 using the **DP Value** in order to create the correct resolution for the range. It must always be a whole number.
- Therefore, in order to create a range accurate to 2 decimal places, we need to enter a **Maximum** of 30000 (300 plus 2 zeros) and a **DP Position** of 2. This will then be scaled down to 0.00 to 300.00.
- Finally, enter **A** as the **Units** because the EU Range will format the data in **Amperes**.
- When the three values are entered, the **Sample** of the EU Range will show a range of 0.00 to 300.00 A - the EU range we want.
- Repeat as appropriate for other channels.
- You can now close **Transmitter Connections** and follow the instructions to end the routine by clicking **Send to Squirrel > OK** and close the Window.

**Note:** For EU ranges the transmitter displays the **raw input voltage**. Darca displays the EU values (e.g. 0-300A)

Eltek can supply CTs for 0-200A and 0-400A. POA.