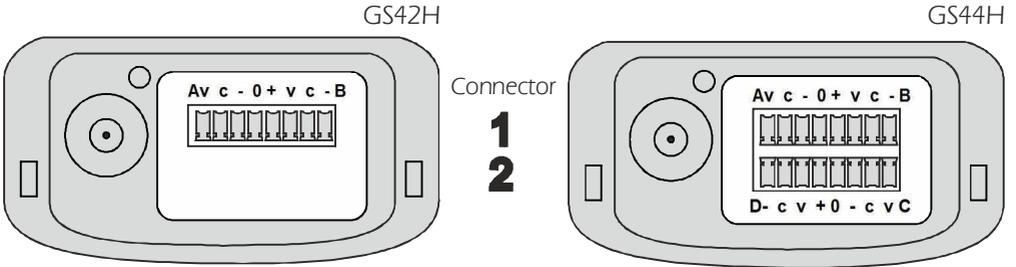


Eltek TU 1055 - GS42H/GS44H User Instructions



GS42H

The **GS42H** provides two bipolar voltage inputs, A and B. (v and - only, do not use c). There is also an external 9VDC supply input on Connector 1.

Connector 1

- 0 is external 9VDC -ve
- + is external 9VDC +ve

GS44H

The **GS44H** provides four bipolar voltage inputs, A B C and D. (v and - only, do not use c). There is also an external 9VDC supply input on Connector 1 and a sensor supply output or FET switch on Connector 2.

Connector 1

- 0 is external 9VDC -ve
- + is external 9VDC +ve

Connector 2

- 0 is sensor supply output -ve or FET switch
- + is sensor supply output +ve or FET switch

GS42H and GS44H[suffix letter]

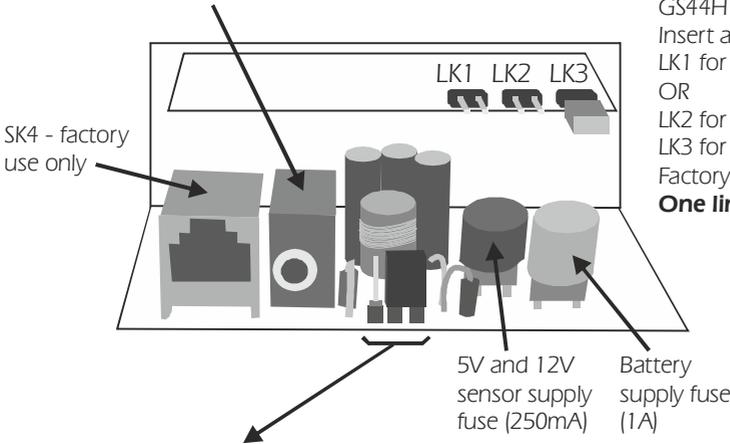
Suffix letters A, B, C, D and E refer to the single hardwired range, intended for use with pressure transducers, strain gauge or the Hukseflux HFP01 heat flux plate. See Page 3 for instructions on setting the EU (Engineering Unit) range.

- A is +/- 5mV
- B is +/-10mV
- C is +/- 20mV
- D is +/-50mV
- E is +/-100mV

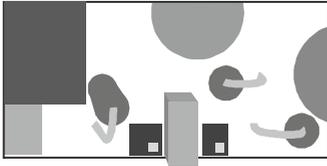
All ranges can be scaled in Tx setup (part of Darca software). A common sensor supply "on-time" can be set in Tx setup.

GS42H/GS44H links

Configuration socket (3.5mm "stereo" jack socket)

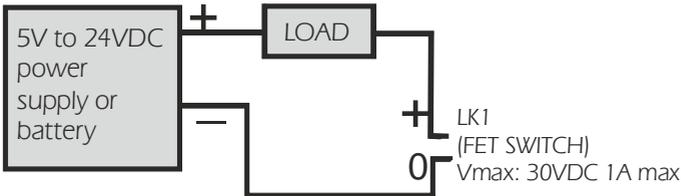


GS44H only
Insert a Link in:
LK1 for switched sensor output
OR
LK2 for 5V or
LK3 for 12V on connector 2.
Factory setting is LK3 (12V)
One link only is permitted.



Default position of link enables 9VDC regulated supply to power transmitter at Connector 1 (0 +). The internal batteries are not active unless the external supply fails.

GS44H only



Caution!

Do not apply external power to Connector 2 (0 +). Damage to the unit can result.

GS42H/GS44H used with Hukseflux HFP01 heat flux plate

Connections

The white wire connects to **v**

The green wire connects to **-**

The black wire connects to **0** (GS42H connector 1 / GS44H connector 1 or 2)

Each Hukseflux HFP01 is issued with a sensitivity calibration value within the range $35\mu\text{V}/\text{m}^2$ to $70\mu\text{V}/\text{m}^2$. To set a transmitter's EU range, you will need to make a note of the sensitivity calibration value of the sensor you are pairing with it.

Thanks to Hukseflux for providing the application and flux values indicated below.

Information provided by Hukseflux:

Application	Flux max w/m^2	Extremes of cal. sensitivity HFP01	mV max	Tx range and transmitter type
shaded / no solar radiation / indoor	100	$35\mu\text{V}/\text{Wm}^2$	$\pm 3.5\text{mV}$	$\pm 10\text{mV}$
		$70\mu\text{V}/\text{Wm}^2$	$\pm 7\text{mV}$	B
shaded north wall / diffuse solar / outdoor	300	$35\mu\text{V}/\text{Wm}^2$	$\pm 10.5\text{mV}$	$\pm 20\text{mV}$
		$70\mu\text{V}/\text{Wm}^2$	$\pm 21.5\text{mV}$	C
Anywhere / "all solar" / outdoor/indoor	1400	$35\mu\text{V}/\text{Wm}^2$	$\pm 49\text{mV}$	$\pm 100\text{mV}$
		$70\mu\text{V}/\text{Wm}^2$	$\pm 98\text{mV}$	E

Eltek can also supply: GS42HA or GS44HA ($\pm 5\text{mV}$ range)
GS42HD or GS44HD ($\pm 50\text{mV}$ range)

Use the above table to order the correct transmitter for the application.

Worked example for channel A of transmitter type GS42HB or GS44HB

- Assume the calibration sensitivity value for the HFP01 to be used is $62.3\mu\text{V}/\text{Wm}^2$
- The GS42HB or GS44HB fixed range is $\pm 10\text{mV}$ ($\pm 10000\mu\text{V}$)
which equates to $10000 / 62.3 = (\text{flux}) \pm 160.5\text{W}/\text{m}^2$
- In EU range selector, confirm that the range is (-10.000 to 10.000mV)
- Set **Maximum** to $(160.5 \times 10) = 1605$
- Set **Units** to wm^2
- Enter a "-" in the **Minimum** box and **OK** the error prompt. Next enter 1605 to give -1605 for the minimum.
- Set **DP** to 1
- Click **OK**
- Check the range for channel A reads EU Range voltage (-160.5 to +160.5 wm^2)

Note: When renewing batteries (and especially if 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.