



# GRAM

SERIE  
**XTREM**



**USER'S MANUAL**

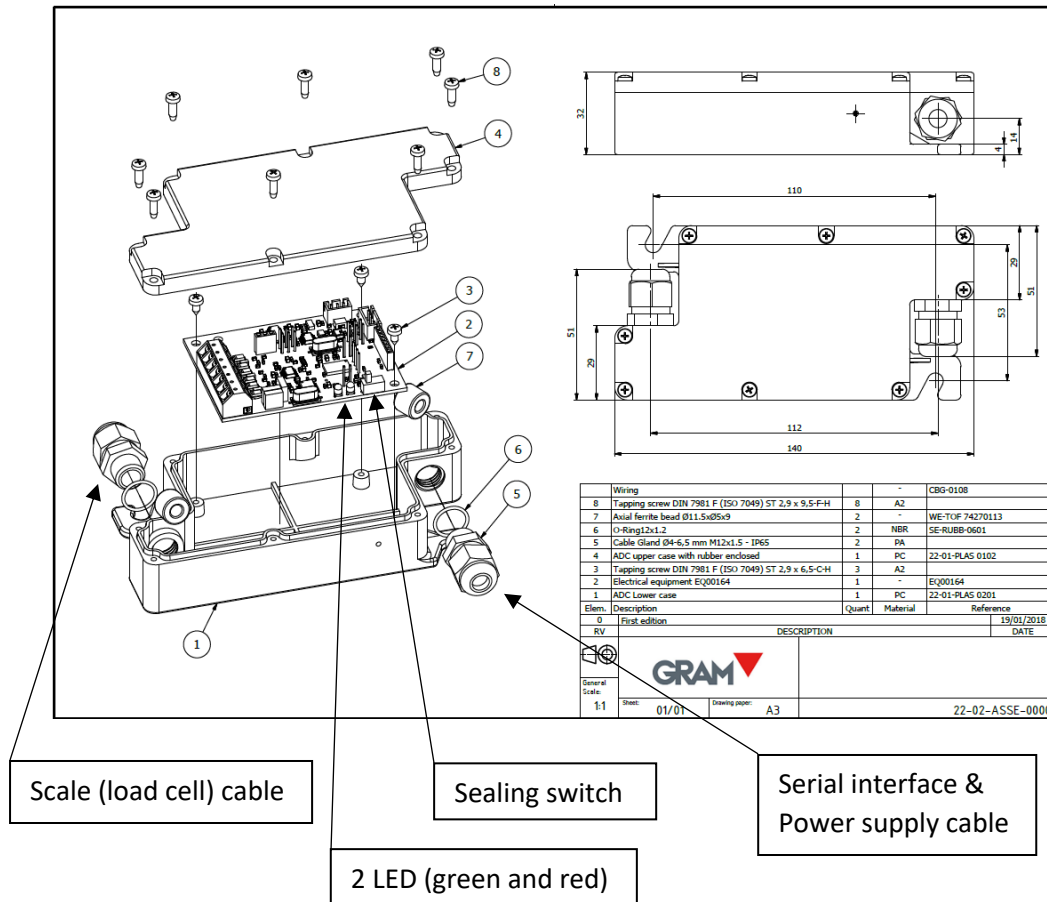




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# 1 Getting started



## Step 1 – Connect the load cell.

Remove the top cover with the help of a Phillips head screwdriver.

Enter the load cell cable through the M12 / PG9 cable gland for connect the wires into the block connector provided on the main board.

See the wiring drawing on this manual.

A ferrite core (2 turns around each wire) shall be fit to meet the OIML R76 / EN 45501:2015 requirements on immunity to electromagnetic radiated fields.

## Step 2 – Unlock calibration settings.

Switch to the right the “sealing switch” on the mainboard to unlock the calibration settings of the scale.

## Step 3 – Connect the serial data interface / power supply.

Connect the cable ended with a 5pin female connector to a XTREM compatible device (like a GRAM K3-X indicator) and power on.

Check that the XTREM module is working ok looking at the two LED lights on the mainboard:

- Green LED is on indicating that the device is powered on and running.
- Green LED blinks while any serial port is sending or receiving information.
- Red LED is on when a hardware default is detected at working time:

Description	Red LED	Troubleshooting
No error	OFF	
Weighing default	ON	Check load cell wiring
Power supply < 5,8Vdc	BLINKING	Check power supply
Power supply > 8,5Vdc	BLINKING	Check power supply
Error R/W flash memory	FAST BLINKING	Check the "sealing switch"

Check the data link between the XTREM module and the weight indicator:

- GRAM K3-X / K3-W indicator: After power on, it will show a character "-" scrolling on the display until the link is ready. Then, the K3 display will show the weight indication. Follow the instructions on K3 manual for adjust the scale and change settings. A message "Prot" will be shown if you try to change any protected setting having the XTREM "sealing switch" turned to the lock position (left side).
- To connect to a GRAM K3-W (Wi-Fi indicator) needs to have installed the optional Wi-Fi module on the XTREM mainboard.

#### **Step 4 – Lock the adjust settings (OPTIONAL).**

Once the scale is adjusted, you can lock the XTREM configuration by changing the position of the "seal switch" to the left side. Note that the "sealing switch" only locks the metrological relevant settings of the scale: Capacity, division, decimal position, zero and span adjust...

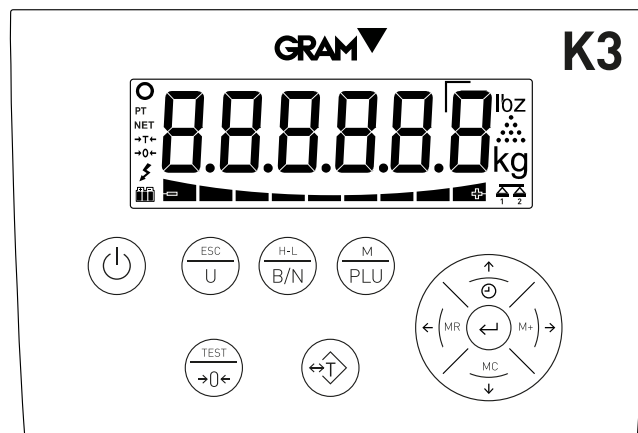
#### **Step 5 – Put the XTREM cover.**

Place again the top cover with the help of a Phillips head screwdriver.


Make sure that the rubber gasket fits correctly on the underside of the box and that the box is firmly sealed by tightening the screws as well as the cable gland.



**Note that the top cover has a position, it is not symmetrical.**


## 2 K3-X Keypad




Each K3-X key can have three different functions depending on short-click, long click (pressing the key for more than 2 seconds) and double-clicking. The function name printed on the upper side of each key is called using a long click. The function name printed on the lower side of each key is called using a short click. Double click performs some special function in some keys. Some keys pressed at once acts as a shortcut for some functions. Cursor keys are used on “Menu mode” and “Edit value mode” to change the selected setting / value and validate by clicking the enter key.

 **Switches the device On / Off.** Pressing it power on the indicator. With the indicator on, keeping it pressed for two seconds switches it off.

 +  enter the scale menu settings by clicking at once.

 **Zero:** Click once to set the scale to zero.

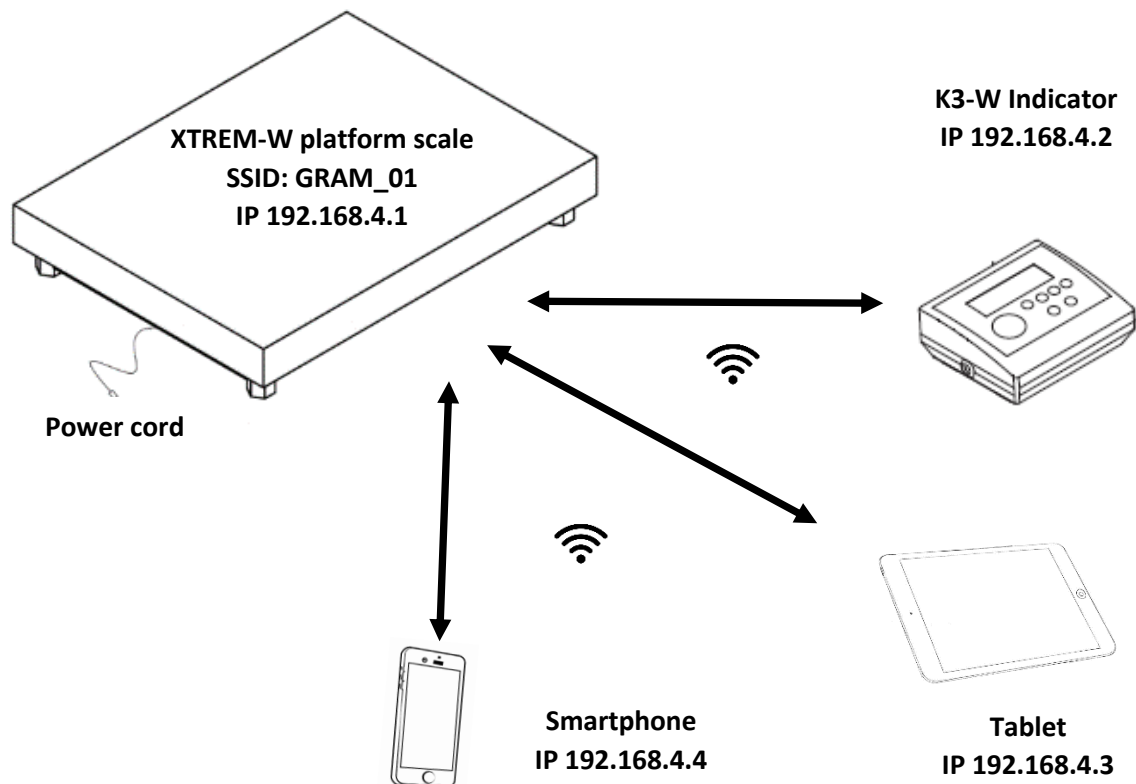
 **Test:** Press for more than 2 seconds to display the software version of the K3-X indicator, the XTREM module serial number, software and hardware version, as well as Max capacity and division.

 **High resolution mode:** Double-click to activate the high-resolution mode.


### 3 Wi-Fi module

The Wi-Fi module optional board adds network features to the XTREM scale.



The XTREM-W scale works as an Access Point (AP) that allows to connect several devices working as weighing terminal.



#### Linking a K3-W weight indicator to the XTREM-W platform scale

1. Switch on the XTREM-W scale by plug-in to the mains (or to a K3-X indicator).
2. Switch on the K3-W indicator.
3. After power on, K3-W will show a character “-” scrolling on the display until the link is ready.
4. keep the  key pressed for two seconds. The display shows the NEnu message for ½ second to indicate that from then on, the indicator will start showing the different setting options. In “menu” mode, use the arrow keys to change to the next option or change the value of one digit in the display when editing the value of a parameter.
5. Enter the RS232 menu and then enter CON 1 menu.
6. Enter the WIFI-x menu option, and then, select the access point that you want to link. The different options that you can select are “GRAM\_00” to “GRAM\_09” (plus the PR4W printer in the case that you want to link it instead a XTREM-W scale).
7. Once you press the ↵ key, K3-W will try to link to the XTREM-W scale having the SSID selected. The link process lasts few seconds. If the scale is in the range of the Wi-Fi antenna of the K3-W, it will appear the message SAVE to indicate that the link is ready, and the configuration has been stored in the K3-X non-volatile memory. Once this option is selected, it is recorded, and it is no longer necessary to repeat this operation until you decide to link the K3-W to a different XTREM-W scale. Press the ESC key until be back to the normal weighing mode.

## 4 Setting up the scale



Press  and  at once to enter the scale setup menu.

This menu features the options for parameterizing and setting the measurement scale of the instrument.

<input type="text" value="unIt"/>	Measurement unit: g, kg, oz, lb.
<input type="text" value="NAx"/>	Maximum capacity of the scale. Enter the value, including the decimal digits. Validate by double-click on ↵
<input type="text" value="dlv"/>	Division: The smallest increment that the instrument can measure. Possible values are 1, 2, 5, 10, 20 or 50.
<input type="text" value="dEC"/>	Position of decimal point.
<input type="text" value="2-rAn"/>	Configuration menu for 2-ranges instrument or 2-interval.
<input type="text" value="r-NOd"/>	Options: NO (single range), 2-ranges, 2-intervals
<input type="text" value="NAx2"/>	Max value for 2 <sup>nd</sup> range / interval
<input type="text" value="Div2"/>	Division for 2 <sup>nd</sup> range / interval
<input type="text" value="2ErO"/>	Configuration menu for the instrument's options related to "zero".
<input type="text" value="InI-0"/>	Initial zero setting at start (Yes / No).
<input type="text" value="NAx-0"/>	Allows you to select the range of the initial zero-setting device. Possible options are MAX (zero is allowed for any weight on the scale) or OIML (10% of Max capacity).
<input type="text" value="0-trA"/>	Zero tracking device activated or deactivated.
<input type="text" value="0-dIS"/>	Show zero indicator in the display Yes/No.
<input type="text" value="nEG-W"/>	Negative weight allowed (NO/YES)
<input type="text" value="CAL"/>	Adjust settings menu for the instrument.



## 5 Adjust settings menu CAL

The adjust settings menu can be directly accessed since the K3-X indicator is connected to the XTREM ADPD device. To do this, press the  and  keys at once (a short press, not sustained).

CALIB	Calibration using a known weight (automatically sets the initial zero and pending calibration).
G-SET	Gravity adjustment depending on the scale's geographical location:
G-COR	ON / OFF correction (activates/deactivates automatic correction according to geographical location).
GEO	Geographical location code (see attached table).
OFSET	Manual input (keypad) of the initial zero (in ADC accounts).
SPAN	Manual input of the span slope, 5 digits.
PrCAL	Prints a ticket with the configuration and calibration settings in the device's memory.
rESET	Resets all configurations to factory settings.
AdCAL	A/D pre-calibration. Only to be used at factory using the correct load cell reference.

### 4.1. Scale calibration CALIB

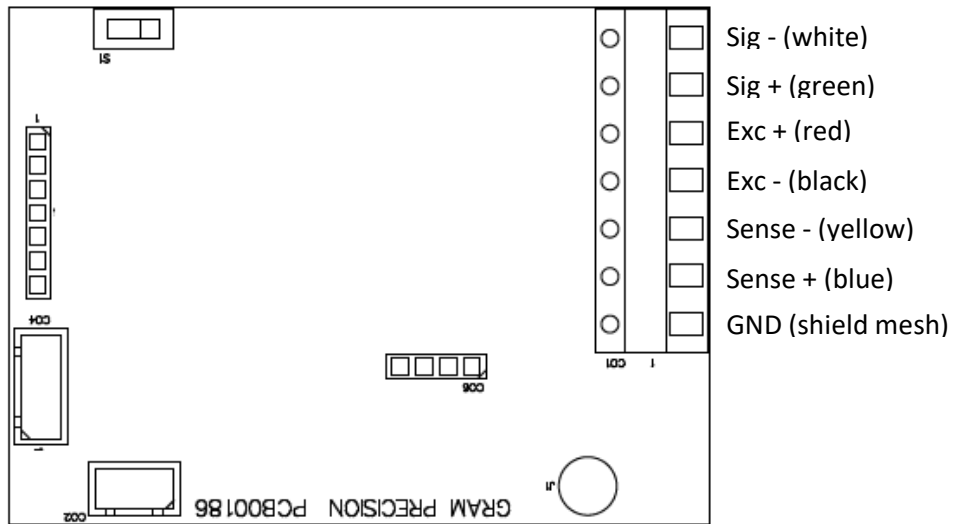
1. With the platform free of any load, select the "CALIB" option.
2. The display will show that the acquisition of the initial zero value is in progress with the blinking message "CAL 0".
3. Once the zero value has been adjusted, place the adjust weight (a standard weigh or a known weight value object) on the load receptor.
4. Enter the weight value using the keypad, including the decimal positions. Use the cursor movement keys to move through the different positions on the display.
5. Once you enter the weight value, double-click on the  $\downarrow$  key to validate and move to next step. The display will show the blinking message "-CAL-" while acquiring the span adjust value.
6. Lastly, it will show the message "GEO" for a few seconds, prompting for the code of the geographical location where you did the scale adjust. The geographical location code is a value in a range from 5 to 31, which you must choose from the attached table. Use the  $\leftarrow$  and  $\rightarrow$  keys to change the value and validate by pressing on the  $\downarrow$  key.
7. The message "SAVE" will briefly appear, indicating that the adjust values has been saved in the non-volatile memory of the XTREM module. Press ESC key until return to normal weighing mode, displaying the weight on the load receptor.

## 6 Error messages (using K3-X / K3-W indicator)

ErrAdC	A/D default: No response from the A/D converter.	Load cell / wiring default. Check wiring.
	Load cell input signal too high (>20mV).	
	Load cell input signal too low (<-20mV).	
ErrLCP	Load cell excitation and A/D converter switched off because a short-circuit.	Load cell fail. Check wiring.
ErrE2P	Data flash memory storage is corrupted and cannot be reset to the factory defaults.	Break the verification seal to open the XTREM cover, switch OFF the sealing switch and reset the device. The instrument must be adjusted and verified / calibrated again.
Err N	Calibration weight > Max.	Adjust weight should be < Max.
Err d	The division should be >10 A/D counts.	Resolution is too high. Change the division to a higher value.
Err C	A stable measurement could not be obtained for adjust the scale.	
-O L-	Overload: Weight > Max+9-div	
---	Negative weight (weight < -19e)	
-00-	Initial zero acquisition in progress	

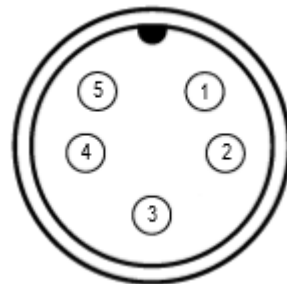
## 7 Connections

### Load Cell



### Serial port / power supply

PIN No.	SIGNAL
PIN 1	+Vcc
PIN 2	TxD
PIN 3	RxD
PIN 4	Not connected
PIN 5	GND





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