

Weight indicator 47-20 Automatic



Original instructions

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1 Introduction

Flintab scales and indicators combine weighing functions and features to provide exceptional flexibility, user friendly operation and reliability.

This manual explains the basic usage of the weight indicator.

Detailed information about the weight indicator can be found in the instruction manual which is available on www.flintab.se.

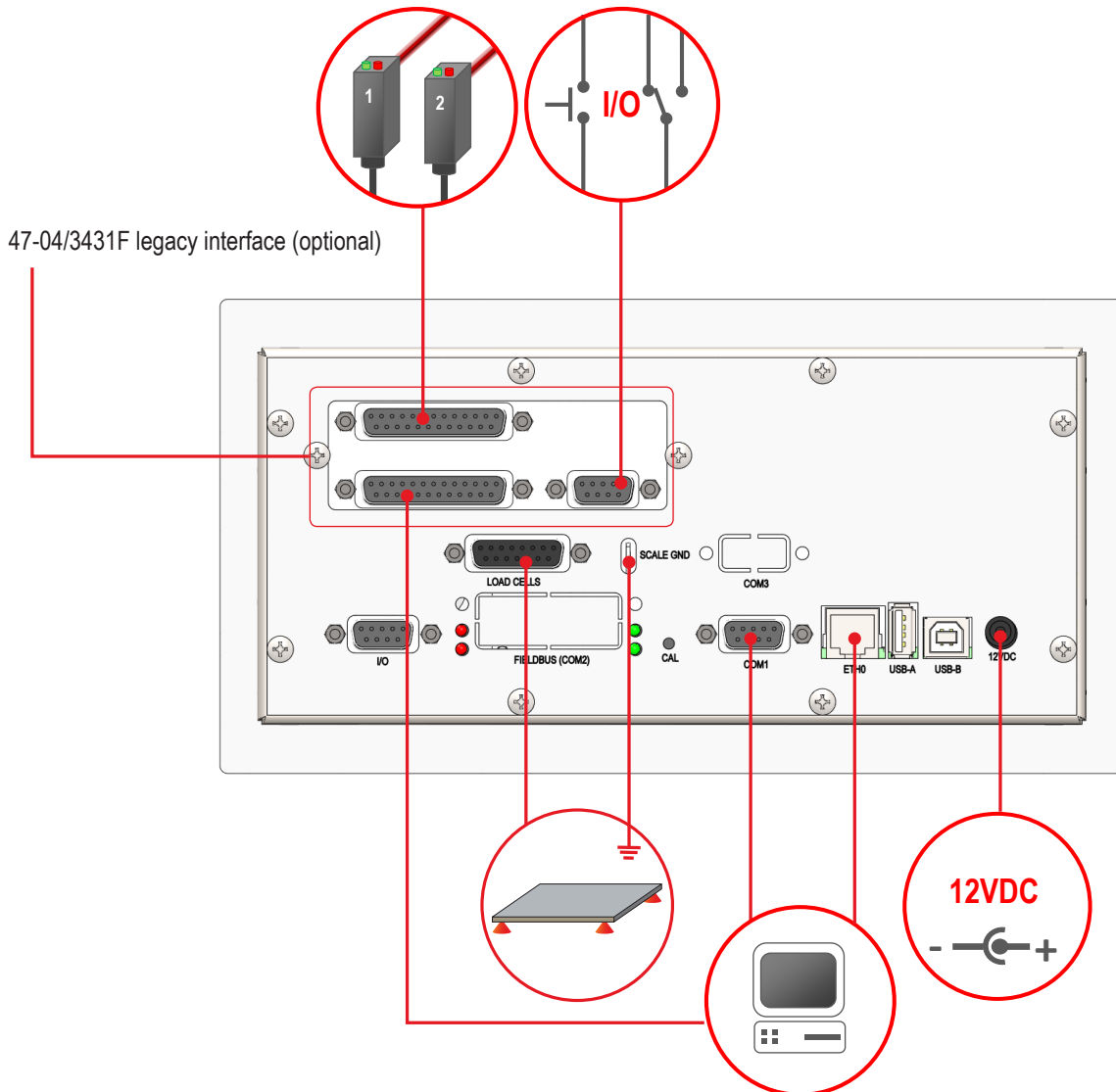
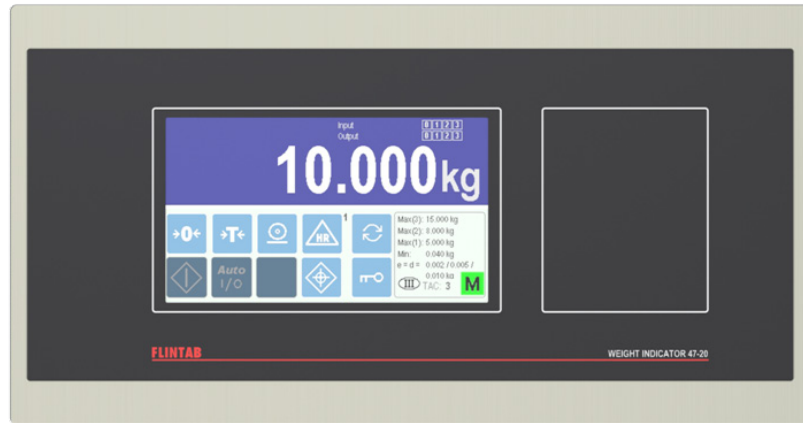
1.1 General

Weight indicator 47-20 is a new generation of Flintab instruments combining modern technology with flexible design, making it suitable for most weighing applications. Weighing capacity, filtering and other weighing parameters are fully selectable and can be tailored for any scale and weighing requirements. The main features are:

- Compact and rugged construction.
- High speed.
- Integrated interfaces.
- Up to 3 serial ports.
- 4.3" colour touch screen.
- Optional integrated DSD.



Touch
Screen



2 Weight indicator display

On the front panel of the indicator the high visibility colour LCD display with touch screen is used to display weighing related data and function as an input device for the operator.

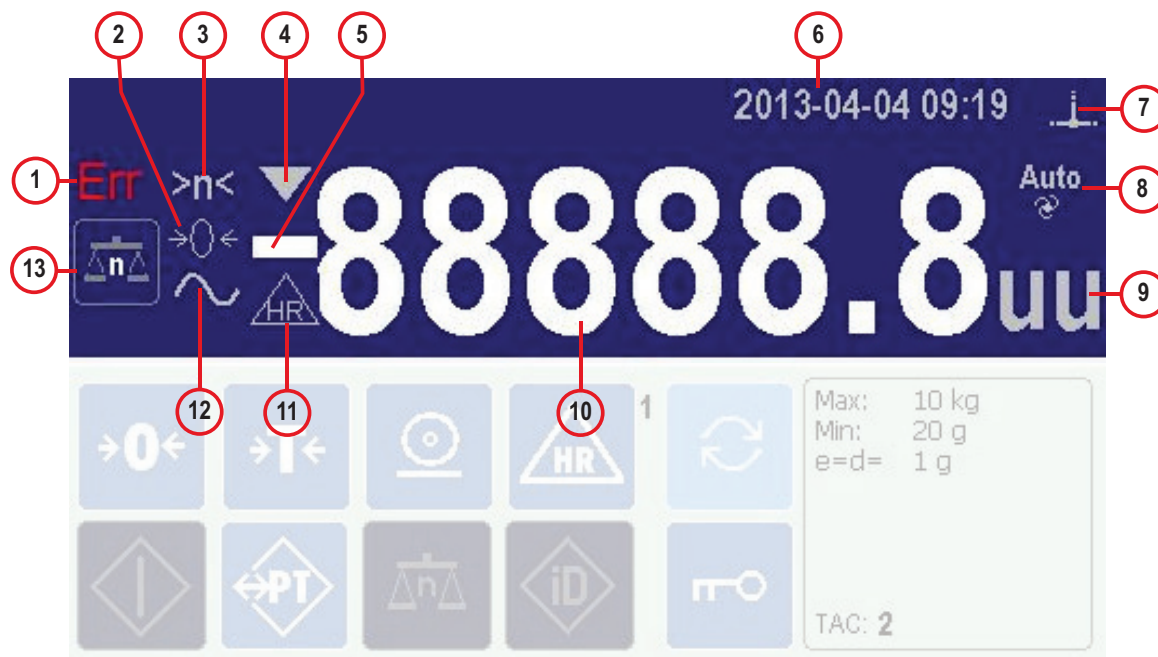


The main view on the display is composed of three distinct areas:

1. Weight value and status.
2. Displays scale parameters such as maximum capacity, scale division/s and interval/s.
3. Operator input through touch sensitive buttons.

2.1 Weight display

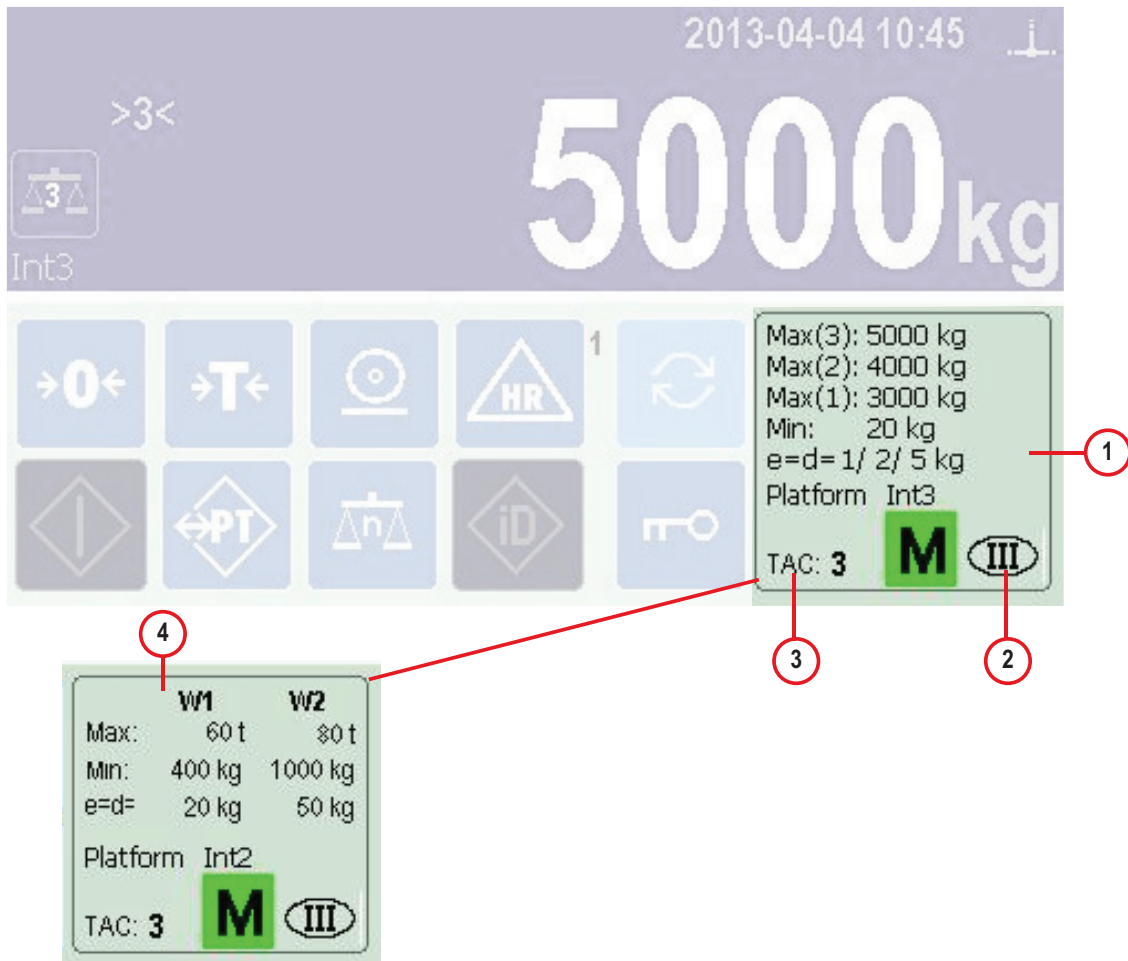
The weight display area shows the weight and related status. If there is a weighing related error normally the display area will indicate with the error symbol lit and the weight value display will be replaced by a status text. For other types of information/warnings/errors (for example logs, communication etc.) the operator info button will be activated, the operator can then, by pressing the button, display the relevant status information.



- | | |
|--------------------------|---|
| 1. Error | 8. Auto mode |
| 2. Zero | 9. Unit |
| 3. Current weighing mode | 10. Weight value |
| 4. Calibration mode | 11. High resolution |
| 5. Negative sign | 12. Motion (unstable) |
| 6. Plug-in ex. Date/Time | 13. Current scale platform
(press to change) |
| 7. Network status | |

2.2 Scale parameters

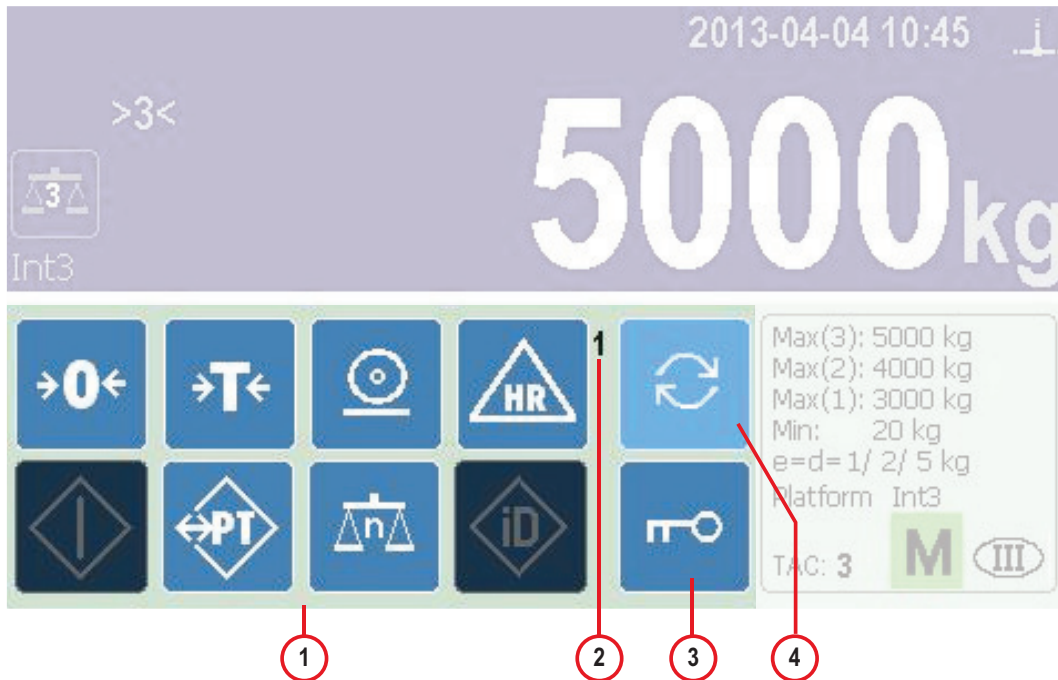
The area bottom right displays scale parameters (Capacity Name Plate) and TAC (TraceableAccessCounter incremented every time calibration mode is activated). There is also an OIML class III designation and the 'M' mark shown only when the indicator is setup for type-approved mode and calibration mode is not activated.



1. Scale description markings
2. OIML R76 (also M symbol)
3. TAC counter
4. Alternative layout for multi-range

2.3 Button panel

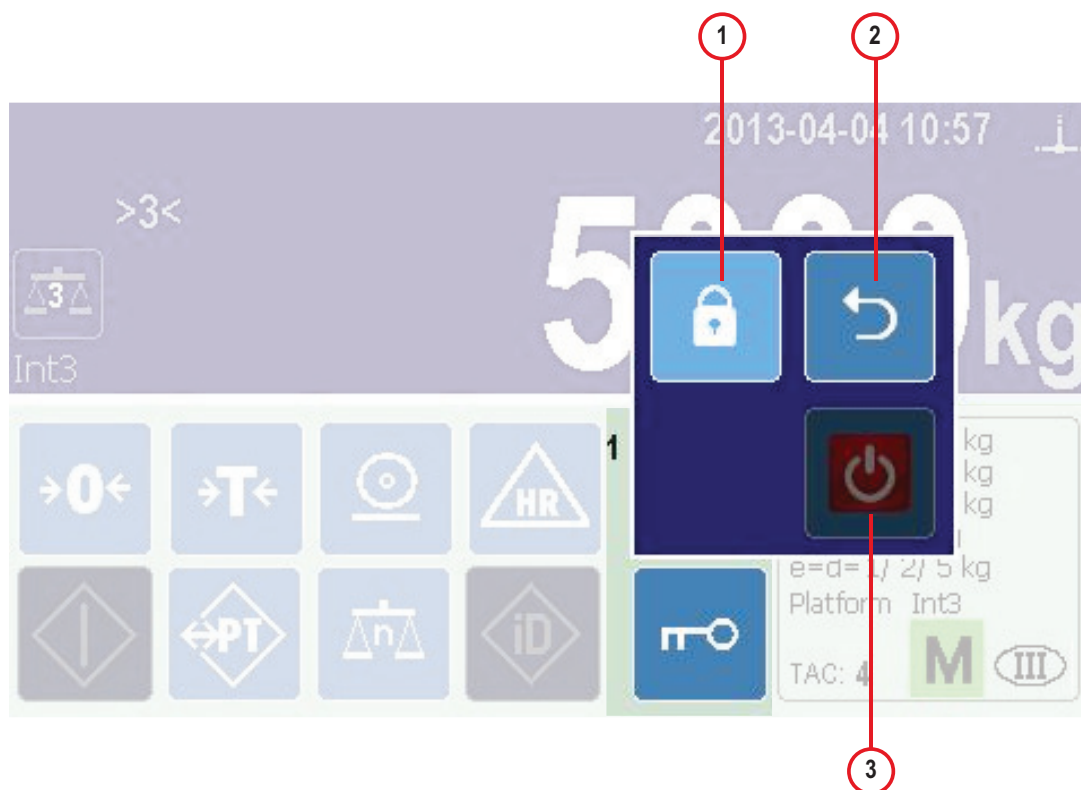
The button panel area is used for operator input and controlling weighing functions. The panel is divided into weighing functions and application functions. The application buttons are used to lock/unlock and alternate between different weighing function groups.



1. Weighing functions (1 group = 8 buttons)
2. Current weighing function group no.
3. Lock/Unlock weighing functions
4. Alternate weighing function groups

2.3.1 Lock/Unlock weighing functions

Normally the indicator is configured to automatically lock all weighing functions after a specific timeout. Alternatively the operator can manually choose to lock the weighing functions when desired. The weighing functions will then be display as 'greyed out'. To re-activate the functions the Lock/Unlock button must be pressed.



1. Lock/Unlock (depending on current status)
2. Cancel
3. Restart (only available when calibration mode is active)

3 Start-up sequence

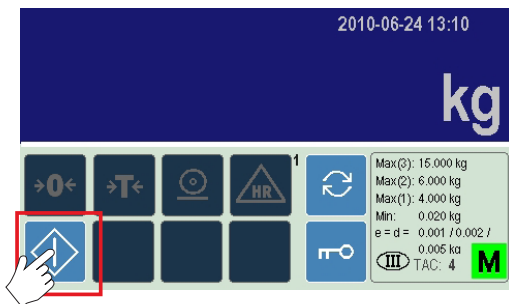
 Up to 20 sec.



 10 sec. or OK



Automatic initial zero.

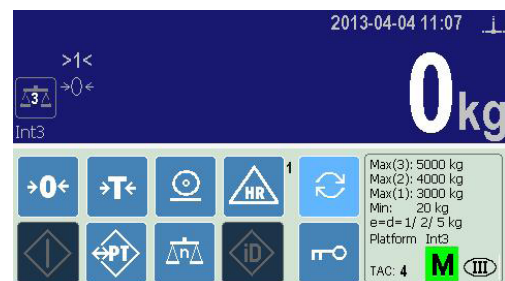


Normal mode.



If the weight value is outside allowed range, the automatic power-on zero function can be aborted.

Zero automatically set.



4 Automatic Weighing



NOTE

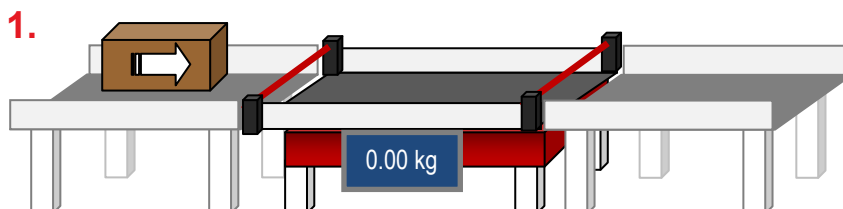
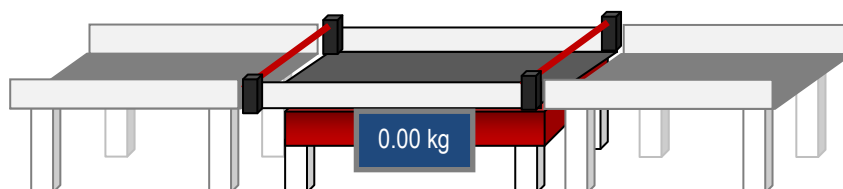
Automatic mode weighing is indicated on the instrument display by the 'AUTO' symbol. If the 'AUTO' symbol is not visible then the instrument can only be used for non-automatic weighing. To synchronize the weighing sequence with the object to be weighed, the instrument uses external photo sensors. To ensure correct operation, it is of utmost importance that these photo sensors are positioned correctly and kept free from dust and debris.

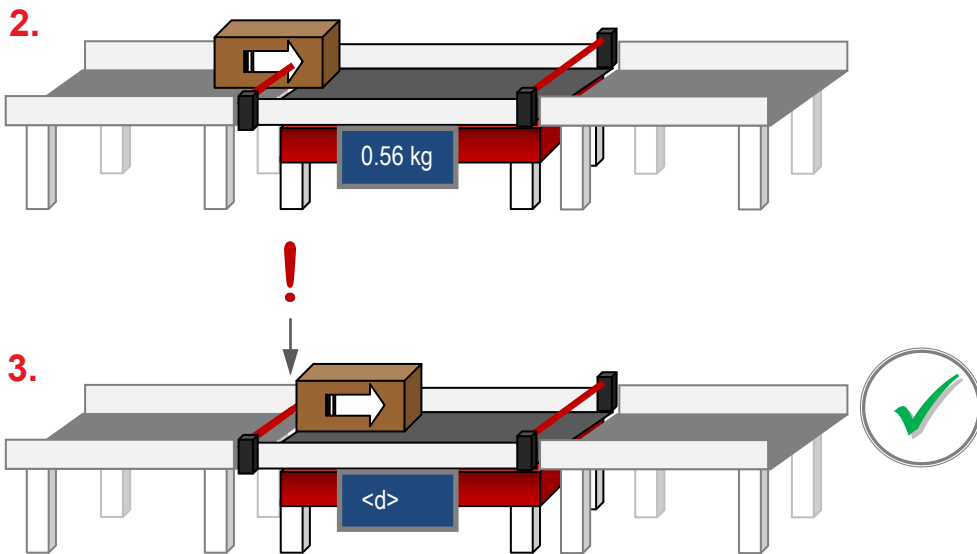
If the objects to be weighed are introduced too close together or exceed specified maximum length, then the instrument will display an error code instead of a weight value. Furthermore, the instrument can employ a zero-supervision system, in this case the scale must be at exact zero within the specified time interval else in-motion weighing is inhibited.



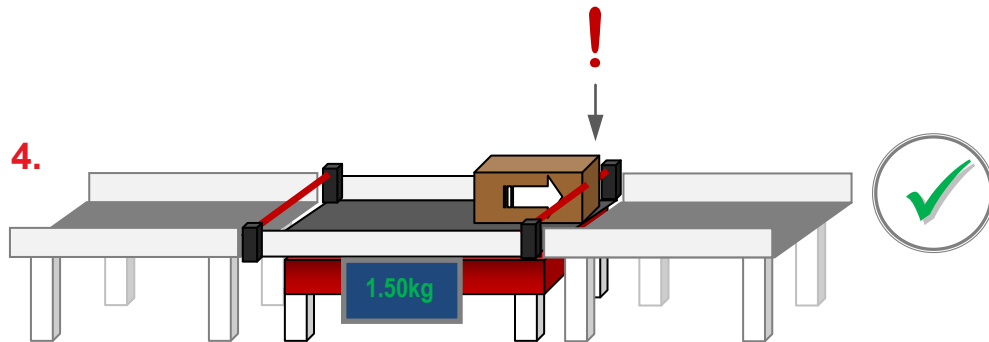
→ 'AUTO' symbol on the instrument display

4.1 Normal operation

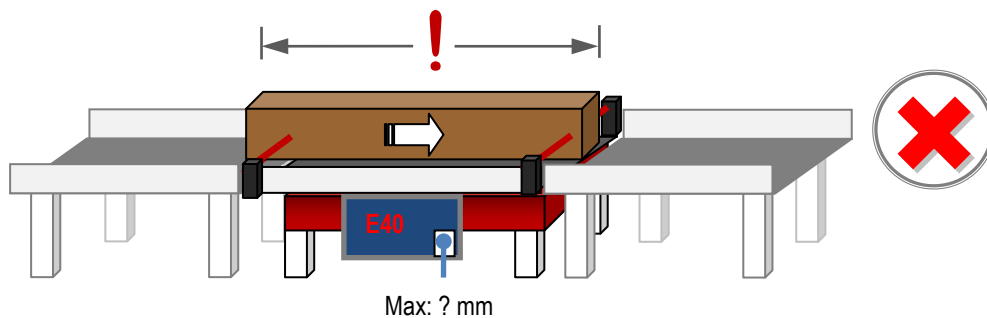




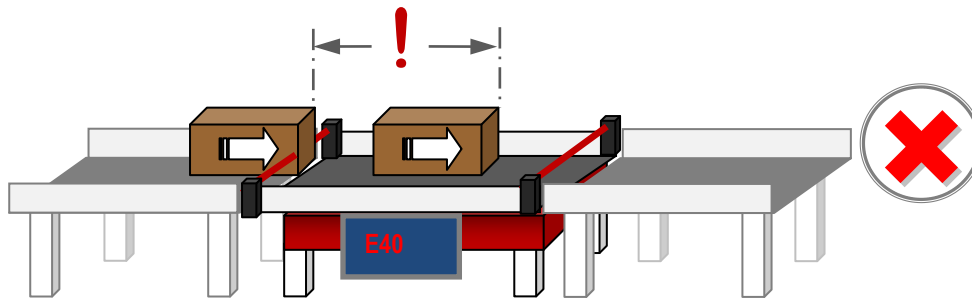
Note: The automatic weighing in progress symbol <d>, will only be shown if the display of the result from the previous operation has exceeded 3 seconds. For high throughput systems, the display will normally only show weighing results (error/weight) and the symbol <d> is never displayed.



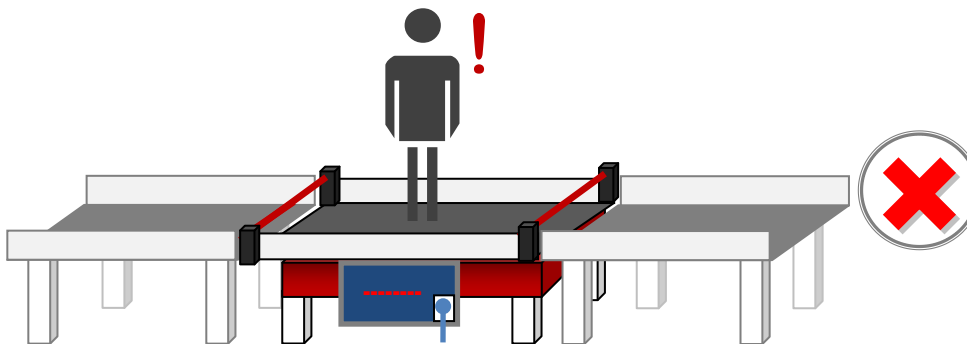
4.2 Incorrect operation



Note: Exceeding the specified maximum length generates error code

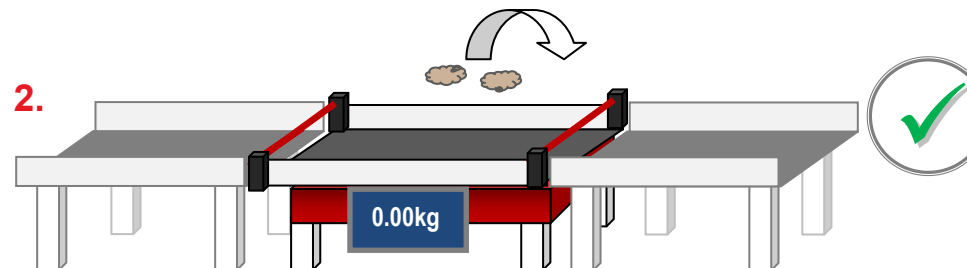
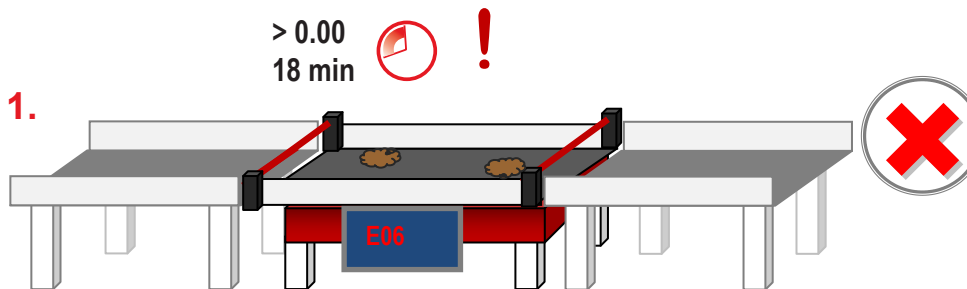


Note: Insufficient separation generates error code



Max: ? kg






Note: The scale is a sensitive calibrated instrument, do not exceed its rated maximum capacity.
















Note: When zero-supervision is activated, the scale must be at exact zero within a specified time interval, normally 18 min. If the scale is not at zero within this interval, it enters zero-error mode and automatic weighing is inhibited until exact zero is reacquired.

5 Button cross reference

5.1 Application buttons

Button icon	Function
	Alternate button function groups.
	Show Lock/Unlock function buttons dialog.
	Lock function buttons
	Unlock function buttons
	Cancel, close, abort

5.2 Function buttons

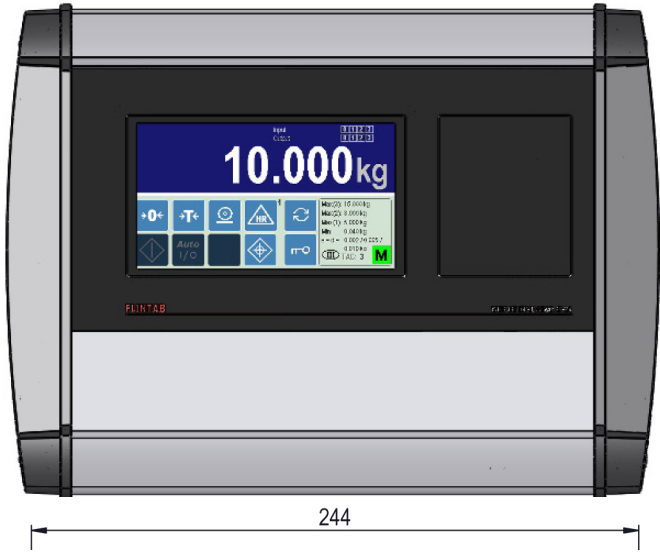
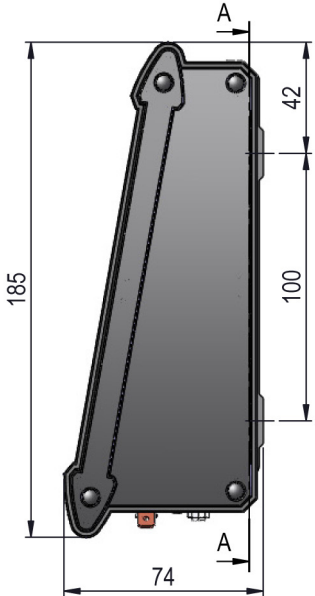
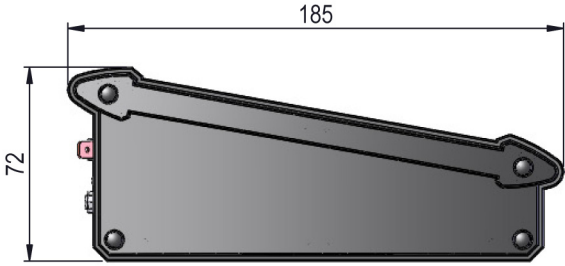
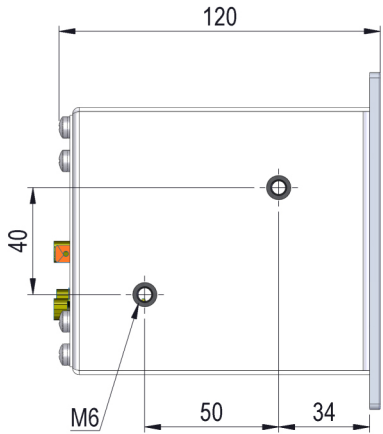
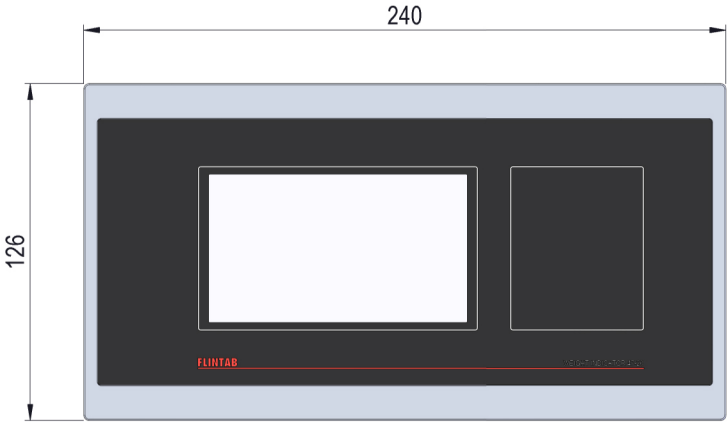
Button icon	Function
	Abort automatic power-on zero and start weighing
	Set zero if within allowed semi-automatic zero range
	Toggle tare, activation only allowed if at positive gross weight value
	Programmable tare, activation only allowed if at positive gross weight value
	Show the totalizing printout tool.
	Add current weight to total sum.
	Print total sum then clear sum
	Shown weight with 10x higher resolution. Only permanently when calibration mode is active
	Toggle automatic mode
	Show status information
	Search alibi number in alibi storage
	Start settings editor
	Show the select indicator tool. Only valid when multiple indicators are accessible.

6 Weight indicator 47-20

6.1 Technical data

Display	480x272 High visibility colour TFT with LED backlight and resistive touch-screen
Interface	Standard: RS232/RS485 (2W or 4W) Ethernet, USB, opto-isolated I/O (3I, 4O) Option: Fieldbus, RS232x2
Power Supply	12 VDC /1.5A, 18W) EIAJ-5320 Class IV
Topology	1-4 channels simultaneous sampling
Load	75Ω-1200Ω combined load on all 4 channels
Excitation	10 VDC regulated, 2.5 VDC biased (-2.5V+7.5V) Short circuit protection, gapdischarge protection (requires low-ohm ground/earth connection)
Sense	Regulative (cable 6 wire + shield)
Input range	0.0 -1.97 mV/V per channel
AD-conversion rate	28800x4/second, 7200x4/second available
Accuracy class	OIML III
Max. number of scale intervals	10`000 - Compliant mode single interval 3x4000 - Compliant mode, triple interval Signal dependant in non-compliant mode
Minimum verification scale interval	1μV
Number of interval	1,2 or 3
Internal resolution	24bits/channel
Temperature range	-10°C -+40C°
Relative humidity	Max 85%, non condensing
Zero drift	Typ. 40nV/C°
Linearity	Typ. 0.00013%
Temp drift	Max. 5ppm/C°
Warm-up time	Typ. 5 min. (300 s)

Dimensions (mm)



7 Error Codes



See Instruction manual on www.flintab.se for more information.

NOTE

Code	Description	Possible cause
E04	Mode switching to non-automatic while data collection was active.	Operator switched off automatic mode during a weighing sequence.
E05	To few weight values accumulated during data collection.	The time between start and stop triggers was below minimum time.
E06	Zero has not been set. Scale was not zero when switching to automatic mode or the zero-tracking has not been active for a while.	Scale must be unloaded at power-on and periodically during weighing when switching to automatic mode. See also section 8.2.7 in maintenance manual..
E07	Weight below minimum weight in automatic mode.	Weight to low.
E08	Weighing signal activated but weight indicator is in 'NORMAL'- non-automatic mode	'AUTO' mode must be active to enable 'automatic-mode' weighing.
E07	Weight below minimum weight in automatic mode.	Weight to low.
E09	Weight peak-to-peak amplitude to high during data collection.	Disturbance or bad mounting.
E13	Negative weight in automatic mode.	Possible incorrect zero or weight to low.
E23	Overload on scale in automatic mode.	Weight to heavy.
E40	Weighing time to short.	The time between start and stop triggers was below minimum time.
E47	Incomplete weighing sequence	Telegram “(“- hold weight in memory received but the previous weight has not been requested by telegram “)”-get weight from memory.
E48	Request “)”- get weight from memory received before weighing sequence was finished.	Telegram “)”-get weight from memory is received too early, before the current weighing sequence is finished.
E49	Request “)” – get weight from memory received when no weight is present in memory.	Telegram “)”-get weight from memory is received too late, after the result from the last weighing sequence is discarded (normally three seconds).

8 Manufacturers declaration of conformity

Manufacturer: Flintab AB
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Sweden
Tel: +46 (0)36- 31 42 00 Fax: +46 (0)36- 18 50 79

Type of equipment: Weight indicator

Brand name/trade mark: **FLINTAB**

Type designation: 47-20; -01, -02, -03

Harmonized European standards which have been applied to the product

Low Voltage Directive: SS-EN 61 010-1

EMC-Directive: SS-EN 61326-1:2006

Non automatic weighing instrument directive SS-EN 45501:1992

Measurement instrument directive (MID): 2004/22/EC, MI-006

We, Flintab AB, declare under sole responsibility that the product to which this declaration relates is in conformity with the essential requirements in the above stated EC-directives

Jönköping, Sweden 2013-08-29,

Göran Nylén, President

(A copy of the signed original declaration of conformity can be provided at request)

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