

# BX30 Total Weighing Controller

## Discontinuous Totalizer & Extraction Rate Scale Controller



### Main Features

- 3 different operation modes for the most common applications,
- Flow rate control at discontinuous totalizer,
- Real time control of the extraction rate weighing system at every discharge,
- 7 Programmable user keys.



### Smart Operation With

- Full control of discontinuous totalizing and extraction rate weighing systems,
- Multicolor LCD display guides the operator,
- Programmable spare digital I/O's to continue operation in case of any I/O malfunction.



### Advanced Technology & Performance

- Controls discharges real-time for accurate weighing and flow rate,
- Up to 1600 conversions per second,
- 1000 times higher internal resolution at measurement,
- Control of the peripheral equipment with freely programmable digital I/O's.



### Integration & Connectivity

- Ethernet TCP/IP, USB, RS-232C, RS-485, Profibus, Profinet, Modbus RTU, Modbus TCP, EtherNet/IP, EtherCAT, CANopen, CC-Link, CC-Link IE, Powerlink,
- Remote service via internet.



BX30 Total is a high-tech, smart, and economical device especially design to control the discontinuous totalizing and extraction rate weighing systems. It provides flow rate control in discontinuous totalizer and real-time flow control in extraction rate scales.

BX30 Total has 3 different operating modes designed to cover all discontinuous totalizer and extraction rate scale applications. Its programmable 7 keys can be assigned to the predefined functions to provide a quick and informative operation.

Freely programmable digital inputs & outputs eliminate PLC in the control cabinet to complete control the peripheral equipments in the system such as pump, valve, silo level control, discharge shut level control etc.

Spare digital I/O's ensure operation continues until the replacement card arrives in case of any digital I/O failure.

# High accuracy at in-process weighing applications with BAYKON technology and know-how.

BX30 Total is a latest-generation filling controller developed with Baykon's state-of-the-art technology and know-how. It is an accurate weighing and control instrument suitable for use in all kinds of gravimetric discontinuous totalizing and in-process weighing systems applications of powders and liquids. BX30 Total is easily integrated into the factory automation systems such as PC, PLC, SCADA, etc.

## Weighing Modes

- ✓ Weighing system without pre-feeding
- ✓ Weighing system with pre-feeding
- ✓ Double weighing hopper system

## SmartAPP

This special function which helps the operator to follow the operation on the display by changing the display color and the analogue bar graph.

## Identification and Memory

Recipe and Identification (ID) memory with 250 records each for filling different materials.



## Programmable Keys

Five function keys, unit change key, and high-resolution key can be assigned to the predefined functions for easy and informative use.

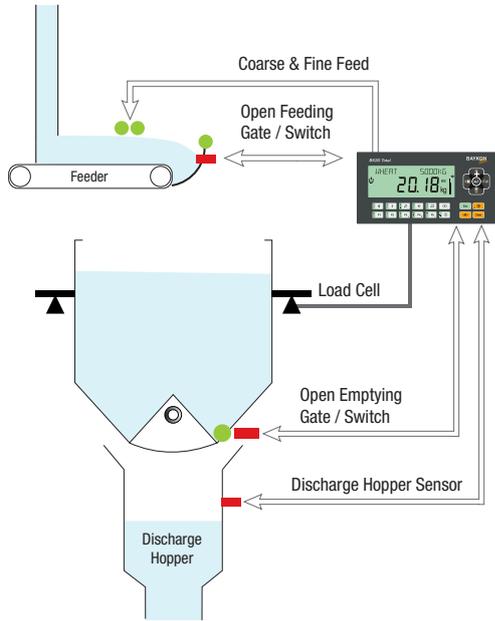
## Changing Display Colour



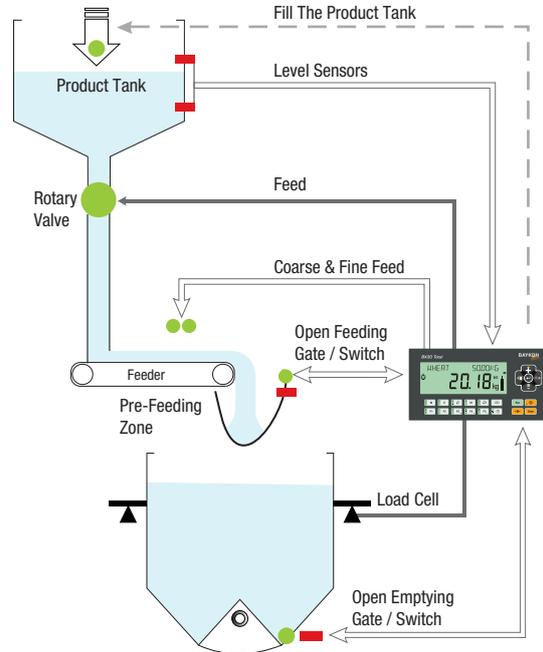
The operator follows the operation is done in tolerance by multicolor display. Continuous under filling or overfilling means that there is a mistake at the parameter entries of the controller, and this mistake must be corrected to increase system efficiency. For example, continuous overfilling (red display) may mean that the coarse feeding is made more than necessary.

# Applications Samples

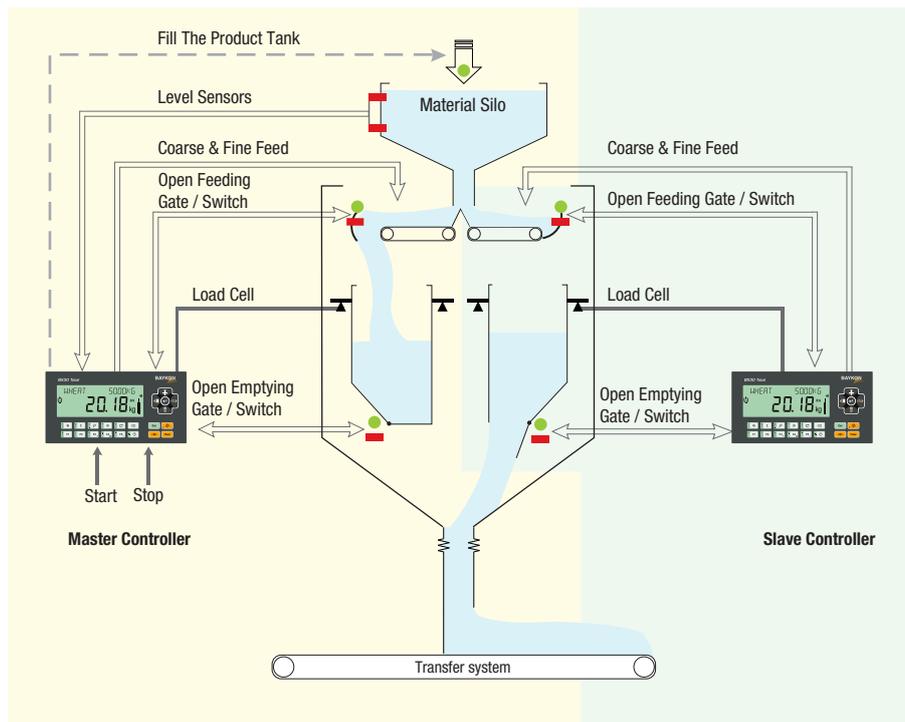
## Extraction Rate Scale



## Discontinuous Totalizer 3 different pre-feeding types



## Complete control of the discontinuous totalizer having double weighing hoppers

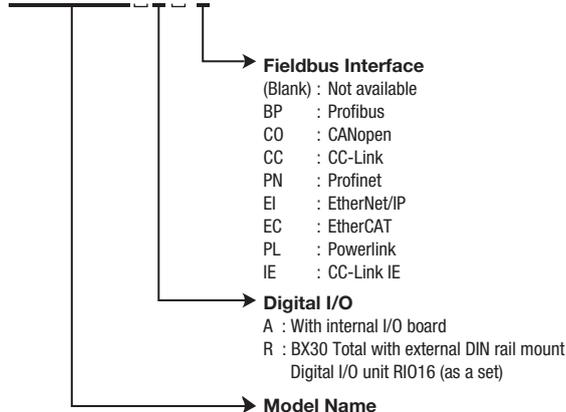


# Technical Specifications

|                                   |   |
|-----------------------------------|---|
| Accuracy class & EU type approval | OIML class III, single range, multi range or multi interval up to 10000 divisions.  |
| Display                           | Wide angle and bright LCD display with multicolor backlight, 22 mm in height 6 digits weight display and 8 mm in height 16 digits alphanumeric information display.   |
| Display resolution                | Up to 300 000 divisions at industrial usage   |
| A/D conversion                    | 24 bit Delta-Sigma ADC with up to 1600 conversions rate.  |
| Minimum input sensitivity         | 0.4 $\mu$ V/e ( legal metrology ), 0.05 $\mu$ V/d ( industrial )  |
| Analogue input range              | -5 mV to +19 mV   |
| Internal resolution               | Up to 16 000 000 counts. Process measurement resolution is 1000 x scale division.   |
| Calibration                       | Calibration with test weights<br>eCal-electronic calibration without test weights<br>Span calibration with temporary zero of charged tank<br>Zero adjustment, Gain adjustment, Coefficient entry.             |
| Digital filter                    | 7 steps programmable adaptive filter.   |
| Scale functions                   | Taring, zeroing, auto zero tracking, motion detection, auto zero at power up, tare status save at power off, increased resolution, automatic tare and clear, temporary gross indication, unit change.         |
| Filling modes                     | 3 different filling modes especially for Single and Double scale discontinuous totalizers, Extraction rate controller.  |
| Memory                            | Two memories for recipe and ID , each has 250 records size.   |
| Programmable keys                 | 7 programmable keys can be assigned pre-defined functions for applications.   |
| Digital I/O                       | Internal: 12 digital inputs / 14 digital outputs<br>External: 16 digital inputs / 16 digital outputs with DIN rail mounting RIO16 unit.   |
| Digital inputs                    | Opto-isolated and reverse polarity connectable, 12 to 28 VDC, 10mA. Selectable input(s) can be programmed as logic and time functions or used as a Remote Input of your PLC over Fieldbus.                    |
| Digital outputs                   | Opto-isolated and short circuit protected transistor outputs, 12 to 28 VDC / 100 mA, Selectable output(s) can be programmed as logic and time functions or used as a Remote Output of your PLC over Fieldbus. |
| Data outputs ( standard )         | Galvanically isolated RS232C, RS485, USB and Ethernet TCP/IP.   |
| Fieldbus interface ( optional )   | Profibus, Profinet, CANopen, Modbus TCP, Modbus RTU, Ethernet TCP/IP, EtherNet/IP, EtherCAT, CC-Link, Powerlink   |
| Alibi memory                      | 99 999 weighing records.  |
| Number of load cells              | Up to 8 load cells 350 $\Omega$ or up to 26 load cells 1200 $\Omega$ ( min. 43 $\Omega$ )   |
| Load cell supply voltage          | 5 VDC @ max. 150 mA   |
| Operation temperature             | -15°C ~ +55°C max. ( operational ), -10°C ~ +40°C ( legal metrology )   |
| Humidity                          | Max. 90 % non-condensing relative humidity. For legal metrology max. 80 %   |
| Housing and protection class      | IP67 protected stainless steel front panel, aluminium body and stainless steel rear panel.  |
| Power supply                      | 12 - 28 VDC<br>100 mA @24VDC ( May increase with the selected options )   |
| Dimensions ( H x W x D )          | 108 x 205 x 112,5 mm Panel mount cutout dimensions ( H x W ): 92 x 186 mm   |
| Package sizes & Gross weight      | 12,5 x 22 x 12,5 cm, 1,75 kg  |

# Ordering & Interface Selection Table

## BX30 Total A PN



Note: Please specify your Alibi memory request as an option.

|                 | BX30 Total A | BX30 Total A PB | BX30 Total A CO | BX30 Total A CC | BX30 Total A PN | BX30 Total A EI | BX30 Total A EC | BX30 Total A PL | BX30 Total A IE |
|-----------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| RS232C          | ●            | ●               | ●               | ●               | ●               | ●               | ●               | ●               | ●               |
| RS485           | ●            | ●               | ●               | ●               | ●               | ●               | ●               | ●               | ●               |
| RS422           | ●            | ●               | ●               | ●               | ●               | ●               | ●               | ●               | ●               |
| USB             | ●            | ●               | ●               | ●               | ●               | ●               | ●               | ●               | ●               |
| Ethernet TCP/IP | ●            | ●               | ●               | ●               | ●               | ●               | ●               | ●               | ●               |
| Modbus RTU      | ●            | ●               | ●               | ●               | ●               | ●               | ●               | ●               | ●               |
| Modbus TCP      | ●            | ●               | ●               | ●               | ●               | ●               | ●               | ●               | ●               |
| Profibus DPV1   |              | ●               |                 |                 |                 |                 |                 |                 |                 |
| CANopen         |              |                 | ●               |                 |                 |                 |                 |                 |                 |
| CC-Link         |              |                 |                 | ●               |                 |                 |                 |                 |                 |
| Profinet        |              |                 |                 |                 | ●               |                 |                 |                 |                 |
| EtherNet/IP     |              |                 |                 |                 |                 | ●               |                 |                 |                 |
| EtherCAT        |              |                 |                 |                 |                 |                 | ●               |                 |                 |
| Powerlink       |              |                 |                 |                 |                 |                 |                 | ●               |                 |
| CC-Link IE      |              |                 |                 |                 |                 |                 |                 |                 | ●               |
| Alibi Memory    | ○            | ○               | ○               | ○               | ○               | ○               | ○               | ○               | ○               |

● Standard ○ Option

(Specifications are subject to change without notice. 01 - 02 / 2022)