

# BX13 Filling Controller

Fast & accurate filling, ergonomic design



## Advanced Technology

- 16.000.000 internal resolution
- Up to 1600 measurement values per second
- Display resolution up to 999.999 increment
- Easy control 4 Inputs and 7 Outputs
- Ergonomic design with small size



## Filling Modes

- Liquid filling for open containers, filling under bung hole or at bottom filling
- “Weigh in and emptying” mode for automatic packing machines, bag fillers
- Filling and discharging for tanks or silos



## External Programming

- Calibration is performed with or without test weights (eCal)
- Easy programming and calibration via RS-232C port by BAYKON “IndFace1x” software
- Calibration via PLC interfaces



## System Integration

- RS-232C / RS 485
- Modbus RTU, Modbus TCP
- Ethernet TCP/IP, EtherNet/IP
- EtherCAT
- Profibus, Profinet
- CANopen
- CC-Link
- Powerlink

BX13, is a professional filling controller designed for any type of filling processes of liquid, bulk and granule material with all types of packages.

With its 16.000.000 internal resolution, high speed with up to 1600 measurements per second, selectable standard digital and statistical filters, BX13 provides fast and accurate filling results in even harsh environments with vibrations. It has 4 standard filling modes for open container filling and above level bung hole filling; 1 mode for filling of materials which has high viscosity and 3 modes for packing machines. This controller has 4 opto-isolated digital inputs and 5 relay contact outputs, 2 none - isolated output. They are used for filling and discharge processes

Powerful calibration options including electronic calibration without test weights supports easy and fast start-up and service. BX13 has powerful PLC integration facilities; serial ports as RS-232C, RS-485 and fieldbus connections such as Ethernet TCP/IP, Modbus RTU/TCP, Profibus, Profinet, CANopen, EtherNet/IP, EtherCAT, CC-Link and Powerlink. It's small size aluminium body provides perfect panel installation with its big display and with its small space need on control panels.

# Technical Specifications

<b>Accuracy</b>	
Accuracy class	OIML Class III
EU Type approval	10.000 division
Linearity	% 0.0015 FS
Temperature coefficient	≤ 2 ppm/°C
<b>Display and Keyboard</b>	
Display	6 digits, 7 segments, LED red, 13,5 mm high
Status annunciators	Gross, net, filling process steps, centre of zero, unit (kg, lb)
Keyboard	5 key (function, star key tare/clear, zero, print), with tactile feedback
Key lock	Keys can be locked against unauthorized access
<b>A/D Converter</b>	
Type	24 bit Delta-Sigma ratiometric with internal analogue and digital filters
Conversion rate	Up to 1600 measurement values per second
Min. input sensitivity	0.4 µV/d (Approved); 0.1 µV/d (Non approved)
Analogue input range	-18 mV to +18 mV
Resolution	Internal up to 16.000.000; up to 10 000 increment (Approved); up to 999 999 increment (Non approved)
<b>Scale Calibration and Functions</b>	
Calibration	Calibration is performed with or without test weights (eCal)
Digital filter	10 steps programmable adaptive filter
Weighing functions	Taring, zeroing, auto zero tracking
Process functions	Motion detection; increased resolution, error and status messages, tons / hour, total impressions
<b>Digital Inputs / Outputs</b>	
Digital outputs	5 relay contact 250 VAC or 30 VDC, 1 A and 2 non - isolated output
Digital inputs	4 opto - isolated digital inputs 12 - 28 VDC, 10 mA
<b>Interfaces</b>	
RS - 232C	1200 to 115200 baud, 8 none 1, 7 even 1, 7 odd 1, 8 even 1 or 8 odd 1 Continuous, BSI (Baykon Serial Interface) protocol and printer forms
RS - 485	1200 to 115200 baud, 8 none 1, 7 even 1, 7 odd 1, 8 even 1 or 8 odd 1, up to 31 units on the RS-485 bus
Modbus RTU	1200 to 115200 baud, 8 none 1, 8 even 1 or 8 odd 1, up to 31 units on the RS-485 bus
Ethernet TCP/IP or Modbus TCP	10 Mbit/s (half duplex), galvanically isolated
EtherNet/IP	10 Mbit/s or 100 Mbit/s, full duplex, galvanically isolated
EtherCAT	100 Mbit/s, full duplex, galvanically isolated
Profibus	Profibus DPV1. 9,6 kbit/s to 12 Mbit/s automatic baud rate detection
Profinet	100 Mbit/s, full duplex, galvanically isolated
CANopen	10 kbit/s - 1 Mbit/s automatic baud rate detection
CC-Link	156 Kbit/s - 10 Mbit/s (selectable), baud rate
Powerlink	100Mbit/s, half duplex
<b>Load Cell Connection</b>	
Excitation	5 VDC max. 125 mA
Number of load cells	Up to 8 load cells 350 Ω or up to 24 load cells 1100 Ω (min. 43 Ω)
Connection	4 or 6 wire technique. Cable length 1000 m/mm² for 6 wire connection
<b>Environment and Enclosure</b>	
Operation temperature	-15 °C to +55°C; %85 RH max., non - condensing
Enclosure	Stainless steel front panel, aluminium body, stainless steel rear panel. 48mm x 96mm panel size; 100mm depth
Protection class	Front panel IP67
Power requirement	12 - 28 VDC, Max. 300 mA

# Application Modes

