TX4 Digital Load Cell Transmitters

Precise Digital Weighing Data to PLC / DCS or PC

- RS-232C
- RS-485
- Digital I/O
- Modbus RTU
- Modbus TCP/IP
- Profibus DP
- Profinet
- CANopen
- EtherNet/IP
- EtherCAT
- CC-Link
- Powerlink

CE   IP 20

Features
- Communication: Reliable data transfer with industrial communication protocols for various for PLC / DCS or PC systems
- High speed: 800 conv./sec
- Anti-vibration filter: Adaptive antivibration active filter for fast and stable reading
- Weighing functions: Taring, AZT, zeroing, power on zero, net indication at power on, motion detection
- eCal: Electronic calibration without test weights
- Digital I/O: Parallel port with 1 x Output and 2 x configurable as Inputs or Outputs
- Software support: Windows based BAYKON xFACE software for calibration and setup via PC

TX4 digital transmitter family is designed for static or dynamic weighing and force measurement processes to provide fast and accurate digital data through RS-232C, RS-485, Ethernet TCP/IP and bus systems as Profibus, Modbus TCP, Modbus RTU, Profinet, CANopen, EtherNet/IP, EtherCAT, CC-Link, Powerlink. TX4 transmitters have a parallel port including 1 x Output and 2 configurable as Inputs or Outputs which can be controlled directly by PLC.

TX4 transmitters are programmed and calibrated via PC by BAYKON xFace software. Weighing functions such as Zeroing, Taring, Power-On zero, net indication at power on, Motion detection, configurable vibration suppression digital filter and electronic calibration without test weights (eCal) are important features. DIN rail type enclosure provides easy montage in control panel.

BAYKON
Industrial Weighing Systems

TX4 Specifications

TX4 Series Instruments	TX4 EN : Ethernet / Modbus TCP/IP TX4 EI : EtherNet/IP
	TX4 MB : Modbus RTU TX4 EC : EtherCAT
	TX4 PB : Profibus DP TX4 CC : CC-Link
	TX4 PN : Profinet TX4 PL : Powerlink
	TX4 CO : CANopen

A/D Converter

Type	24 bit Delta-Sigma ratiometric with integral analog and digital filters
Conversion rate	Up to 800 measurements per second
Minimum input voltage	< 1 mV
Minimum input sensitivity	0.1µV per interval
Analogue input range	0 mV to 18 mV unipolar or -18 mV to 18 mV bipolar
Linearity	Within 0.0015% FS, 2 ppm/°C
Resolution	Internal up to 16 000 000; External up to 100 000 counts in Weighing / Force modes, 1 000 000 counts for unipolar input and for selected range in Count mode and 2 000 000 counts for bipolar input and for selected range in Count mode

Calibration and Programming

Calibration	By etalon weights: via xFace software or fieldbus
	eCal : Electronic calibration without etalon weights, via xFace
	Count mode: Calibration in the PLC. Changing the instrument does not require recalibration due to matched production.
Digital filter	10 step adjustable digital adaptive filter
Weighing functions	Tare, zeroing, auto zero tracking, motion detection, auto-zero at power-up, net indication at power on

Digital Input / Output

Hardware	1 output (max.100 mA per output) and 2 configurable I/O (11 to 28 VDC input signal range, max. 100 mA per output)
Function	Outputs are programmable for set points with/without threshold, tolerance band output or control output via PLC/PC. Inputs can be used for zeroing, taring or control input to PLC/PC.

Load Cell

Excitation	5 VDC, max. 100 mA
Number of load cells	Up to 6 load cells 350 Ω or 18 load cells 1100 Ω in parallel
Connection	4 or 6 wire technique. Cable length 274 m/mm² for 6 wire connection

Communication

Serial Interface RS-232C	9600 baud, 8 None 1, xFace connection
Serial Interface RS-485 (TX4 MB)	1200 to 57600 baud, 7 even/odd, 8 None 1, continous data output, BSI or Modbus RTU comm. protocol
Modbus RTU interface (TX4 MB)	Up to 31 units on the bus, Baudrate up to 57600
Ethernet / Modbus TCP/IP (TX4 EN)	10Mbits (half duplex), galvanically isolated
Profibus DP V1 interface (TX4 PB)	9,6 kbits/s to 12 Mbits/s automatic baudrate detection
Profinet interface (TX4 PN)	100Mbits (full duplex), galvanically isolated
CANopen interface (TX4 CO)	10 kbits/s to 1 Mbits/s automatic baudrate detection
EtherNet/IP (TX4 EI)	10 Mbit/s or 100 Mbit/s, full duplex, galvanically isolated Adressing: Assign DHCP or manual IP with PC software
EtherCAT (TX4 EC)	100 Mbit/s, full duplex, galvanically isolated
CC-Link (TX4 CC)	156 kbps - 10 Mbps communication speed Adressing: Up to 64 stations per network
Powerlink (TX4 PL)	100Mbit/s, half duplex

Power Supply and Others

Power Supply	10 to 28 VDC, min 60mA – max. 600 mA (Depend on the model and connected load cell units)
Enclosure	Polyamide, for DIN-rail mount, protection class IP20
Operation Conditions	Between -15 °C and +55 °C at 85% RH max, non-condensing

Typical Application

- RS-232C
- RS-485
- Digital I/O
- Modbus RTU
- Modbus TCP/IP
- Profibus DP
- Profinet
- CANopen
- EtherNet/IP
- EtherCAT
- CC-Link
- Powerlink

Digital In/Out
Scale

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Industrial Weighing Systems

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