

# 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



## Features

- Communication: Reliable data transfer with industrial communication protocols for various 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.

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Industrial Weighing Systems

# TX4 Specifications

TX4 Series Instruments	TX4 AD : RS-485 TX4 EN : Ethernet / Modbus TCP/IP TX4 MB : Modbus RTU TX4 PB : Profibus DP TX4 PN : Profinet	TX4 CO : CANopen TX4 EI : EtherNet/IP TX4 EC : EtherCAT TX4 CC : CC-Link TX4 PL : Powerlink
<b>A/D Converter</b>		
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	
<b>Calibration and Programming</b>		
Calibration	By etalon weights: via xFace software or fieldbus eCal : Electronic calibration without etalon weights via xFace Count mode: No calibration. All instruments are adjusted in production for high calibration accuracy	
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	
<b>Digital Input / Output</b>		
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.	
<b>Load Cell</b>		
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/mm <sup>2</sup> for 6 wire connection	
<b>Communication</b>		
Serial Interface RS-232C	9600 baud, 8 None 1, xFace connection	
Serial Interface RS-485 (TX4 AD / TX4 MB)	1200 to 57600 baud, 7 even/odd, 8 None 1, continuous demand (BSI mode) or Modbus RTU	
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 Addressing: 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 Addressing: Up to 64 stations per network	
Powerlink (TX4 PL)	100Mbit/s, half duplex	
<b>Power Supply and Others</b>		
Power Supply	10 to 28 VDC, min 60mA – max. 600 mA ( According to 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



Digital In/Out  
Scale



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



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