Clevis Pin

Shackle Bolt

Product Features & Benefits

- *License free 2.4GHz telemetry.*
- *Transmission range up to 800 m (2,600 ft).*
- *Long battery life.*
- *Ideal for single or multiple sensor systems.*
- *Clevis pin or Shackle Bolt with attached wireless transmitter.*
- *Transmitter is made to fit either custom or standard clevis pins.*
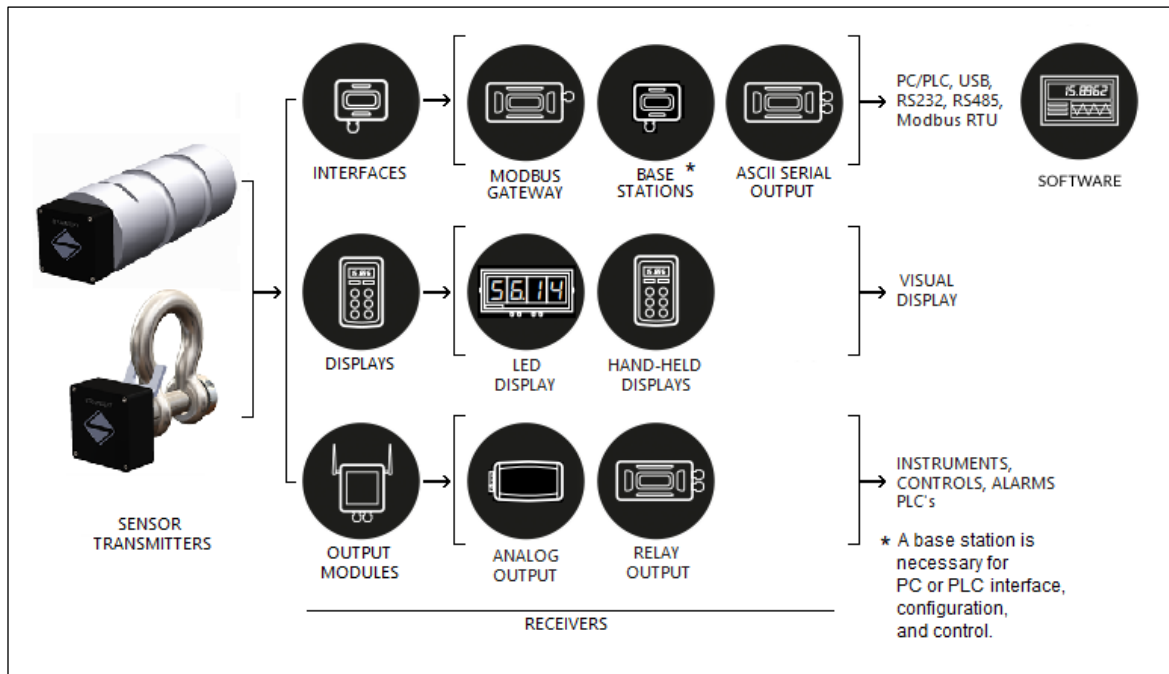- *Software tools included.*

Applications

- *Aerospace*
- *Industrial Weighing*
- *Automotive*
- *Construction*
- *Energy*

Description

The Strainsert Wireless Load Pin is a high-performance wireless telemetry solution where wired installation may be difficult, cost prohibitive, or undesirable. The system provides long battery life along with high measurement accuracy, resolution, and stability.

Software tools are included for quick and convenient interfacing with device configuration, calibration, datalogging, and recording.

Contact Strainsert Engineering for system design assistance. Design options may include standard and/or custom components, systems integration, and software development.

SENSOR TRANSMITTERS

INTERFACES → MODBUS GATEWAY | BASE STATIONS * | ASCII SERIAL OUTPUT → PC/PLC, USB, RS232, RS485, Modbus RTU | SOFTWARE

DISPLAYS → LED DISPLAY | HAND-HELD DISPLAYS → VISUAL DISPLAY

OUTPUT MODULES → ANALOG OUTPUT | RELAY OUTPUT → INSTRUMENTS, CONTROLS, ALARMS PLC's

* A base station is necessary for PC or PLC interface, configuration, and control.

RECEIVERS

General Specifications		*Units*
Temperature Range, Operating	*-20 to 55 (-4 to 131)*	*°C (°F)*
Temperature Range, Storage	*-40 to 85 (-40 to 185)*	
Humidity	*0 to 95*	*%RH*
Wireless Data transmission rate	*250,000*	*bps*
Wireless Data transmission interval	*5, minimum (333 typical)*	*msec*
RF Frequency Range	*2.4000 - 2.4835*	*GHz*
RF Transmit Power	*10*	*mW*
RF Channels (DSSS)	*15*	*channels*

Transmitter Specifications		*Units*
Bridge Measurement	*4-wire*	
Bridge Excitation Voltage	*4.5 to 5.25 (5 typical)*	*VDC*
Bridge Resistance	*85 to 5000 (350, typical)*	*Ohms*
Bridge Sensitivity	*-3 to 3 (2.5, typical)*	*mV/V*
Stability with Temperature, Offset	*1 to 4 (0.6 to 2.2)*	*ppm/°C (ppm/°F)*
Stability with Temperature, Gain	*3 to 5 (1.7 to 2.8)*	
Stability with Time, Offset	*80, maximum (20, typical)*	*ppm/F.R.*
Stability with Time, Gain	*30, maximum (first year)*	
Non-Linearity before Linearization	*25, maximum (5, typical)*	*ppm/F.R.*
Internal Resolution	*16 Million*	*counts / divisions*
Noise Free where Sample Time < 10ms	*50,000*	
Noise Free where Sample Time < 50ms	*65,000*	
Noise Free where Sample Time < 100ms	*150,000*	
Noise Free where Sample Time < 1000ms	*250,000*	
Noise Free where Sample Time > 1000ms	*400,000*	
Standby/Low Power Mode	*20, maximum (5, typical)*	*µA*
Power Supply voltage	*2.1 to 3.6 (3, recommended)*	*VDC*
	5 to 18 (T24-ACM on optional external power)	
Power Supply ripple	*50, maximum*	*mVAC PK-to-PK*
Power Supply current	*65, maximum (60, typical max. with 1000 Ohm Bridge)*	*mA*
Battery Life expectancy, 2 AA cells (Low power mode. 3 Hz transmission rate. 350 Ohm Bridge.)	*3 (Constantly on)*	*weeks*
	2 (12 sessions/day at 5 minutes per session)	*years*

T24 Wireless Base Stations

A Base Station is necessary for PC or PLC interface, configuration, and control. It facilitates automated data capture of T24 Transmitter module readings. The T24 Toolkit PC software is included with the wireless system.

T24-BSi

- *Wireless range up to 800 m (2,600 ft).*
- *USB powered or External power, 9-32 V.*
- *USB, RS232, & RS485 outputs.*
- *164 mm (6.5 in) x 84 mm (3.3 in) x 57 mm (2.2 in).*
- *Environmentally Rated, IP 67.*

T24-BSue

- *Wireless range up to 800 m (2,600 ft).*
- *USB powered.*
- *USB output.*
- *80 mm (3.1 in) x 62 mm (2.4 in) x 34 mm (1.3 in).*
- *Environmentally Rated, IP 67.*

T24-BSu

- *Wireless range up to 500 m (1,600 ft).*
- *USB powered.*
- *USB output.*
- *76 mm (3.0 in) x 35 mm (1.4 in) x 20 mm (0.8 in).*
- *Environmentally Rated, IP 50.*

T24-BSd

- *Wireless range up to 500 m (1,600 ft).*
- *USB powered.*
- *USB output.*
- *58 mm (2.3 in) x 20.5 mm (0.8 in) x 11 mm (0.4 in).*

T24 Wireless ASCII Serial Output

T24-SO

- Wireless range up to 800 m (2,600 ft).
- USB powered or External power, 9-32 V.
- RS232 & RS485 outputs.
- Outputs a user defined ASCII.
- Optional summing for up to 8 transmitters.
- 164 mm (6.5 in) x 84 mm (3.3 in) x 57 mm (2.2 in).
- Environmentally Rated, IP 67.

T24 Wireless Range Extender

T24-AR

- Extends wireless range up to 1,600 m (5,200 ft) or to pass signal around obstructions.
- Internal battery (2 D cells) or external power supply (5 to 18 VDC). If internal batteries are fitted when external power is applied, the batteries will be utilized if external power is lost.
- 164 mm (6.5 in) x 84 mm (3.3 in) x 57 mm (2.2 in).
- Environmentally Rated, IP 67.

T24 Wireless Modbus Gateway

T24-GW1

- Wireless range up to 800 m (2,600 ft).
- Serial data for up to 100 transmitter modules.
- Modbus RTU or ASCII protocol.
- External power, 9-32 V. Current, 100 mA (typical).
- 164 mm (6.5 in) x 84 mm (3.3 in) x 57 mm (2.2 in).
- Environmentally Rated, IP 67.

T24 Wireless Relay Output

T24-RM1

- Wireless range up to 800 m (2,600 ft).
- Accepts up to 16 inputs from T24 wireless transmitters and triggers a range of selectable output actions.
- 2 x 240 VAC, 5A relay modules for control and alarms.
- External power, 9-32 V. Current, 100 mA (typical).
- 164 mm (6.5 in) x 84 mm (3.3 in) x 57 mm (2.2 in).
- Environmentally Rated, IP 67.

T24 Wireless Receiver with Analog Output

T24-AO1i

- Wireless range up to 800 m (2,600 ft).
- Analog output of 0-10 V, 0-5 V, 4-20 mA, 0-20 mA, ±10 V, ±5 V. Output may be measured by an analog input instrument.
- Output updated 2,000 times per second.
- External power, 9 – 32 VDC, 100 mA (typical).
- 164 mm (6.5 in) x 84 mm (3.3 in) x 57 mm (2.2 in).
- Environmentally Rated, IP 67.

T24 Wireless Handheld Receivers

Handheld receivers provide a convenient way to connect to T24 transmitters in a rugged IP67 rated enclosure. They can automatically 'power on' and 'power off' T24 transmitters. Power is provided by 2 AA batteries that can last up to 40 hours of use. Wireless range up to 800 m (2,600 ft).

T24-HS

Wireless Portable Display for Single Wireless Transmitter

- The T24-HS provides a point to point connection to a single transmitter. Two key operation offering tare functionality.

T24-HR & HA

Wireless Portable Display for Multiple Wireless Transmitters

- The T24-HR is a roaming handheld which allows the operator to individually cycle the display between all available transmitter modules.
- The T24-HA receives up to 12 wireless transmitters and provides either a summed total from all selected transmitters or can individually cycle the display for each of the selected transmitters.

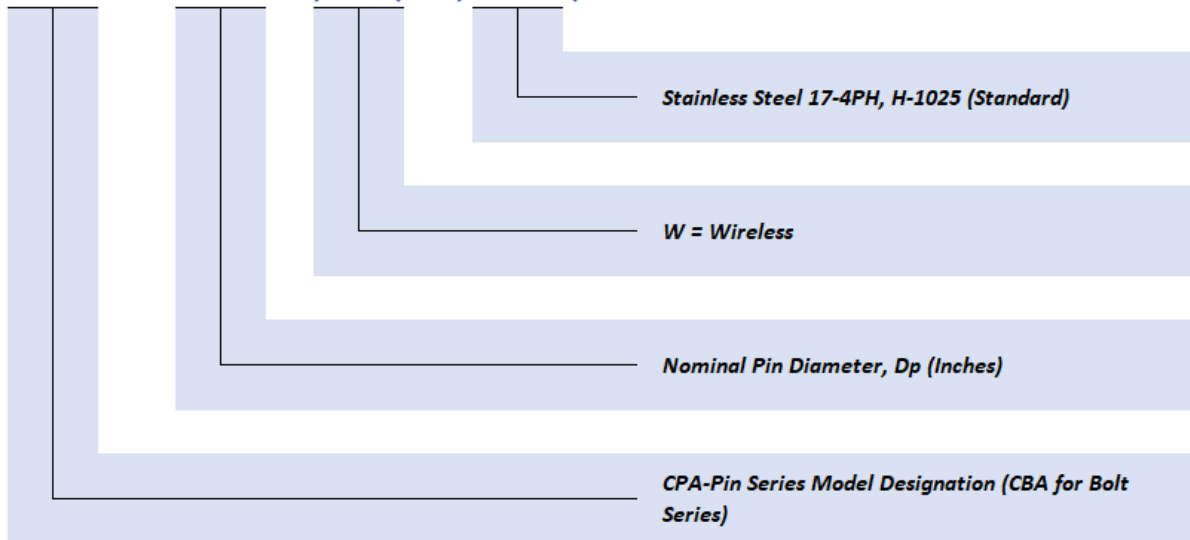**STRAINSERT**

T24 Wireless Large LED Display

T24-LD1

- *Wireless range up to 800 m (2,600 ft).*
- *Large screen with four-digit, 100 mm (4") LED display.*
- *Display individual T24 transmitter values or the summed value of up to eight modules.*
- *External power, 10-30 VDC. Current, 3.5 A (typical).*
- *435 mm (17.1 in) x 195 mm (7.7 in) x 77 mm (3.0 in).*
- *Environmentally Rated, IP 65.*

ORDERING EXAMPLE

Standard

CPA-2.5 (W) (SS)

Stainless Steel 17-4PH, H-1025 (Standard)

W = Wireless

Nominal Pin Diameter, Dp (Inches)

CPA-Pin Series Model Designation (CBA for Bolt Series)

ORDERING EXAMPLE

Custom

(CPW-FB) QXXXXX

Custom Job Number

FB = Full Bridge
DFB = Dual Full Bridge
BAFB = Bi-Axial Full Bridge

CP = Clevis Pin
CB = Clevis Bolt   **W = Wireless**