

Load Measuring Pins are the simplest and most reliable method of measuring loads. They can be used in a great number of situations, including the most severe of environments - heavy industry, mining, offshore, subsea and aerospace. They can be incorporated easily and economically into the load path by replacing any existing load bearing pins. Typically they are used in rope sheaves, fairleads, winches, cranes, mooring hooks and anchorages.

- **Weighing and load measurement**
- **Easy to install new or retrofitted**
- **Waterproof and sealed to IP67 standard**
- **Single, dual or redundant bridges**
- **Intrinsically safe for use in hazardous areas**

The 5573 Series Load Measuring Pin is fitted with an in-built 2-wire Intrinsically Safe Amplifier. It may include an additional amplifier, either for redundancy or for load sensing in two planes, in which case a second set of strain gauges will be installed in the pin.

The Amplifier has connections (L+ and L-), deriving its power from the 4-20mA current loop that it controls, the loop current being proportional to the load.

The combination of load pin, interconnecting cable (permanently glanded or weatherproof connector), intrinsically safe interface (eg Zener barriers) constitutes an intrinsically safe system suitable for all zones and gas groups, with the temperature category T4.

As with all load cells, load pins can be used with Strainstall's range of standard and special instrumentation packages. Load cells and systems are supplied with full calibration certification.

Typical Specification

Rated Load	As required
Proof Load	150% of rated load
Safe Side Load	100% of rated load
Factor of Safety	4-6 depending on requirement
Rated Output	4-20mA into 680Ω max. *
Supply Voltage	12-24V DC *
Certification	BS EN50014 and BS EN50020
Certificate Number	BAS02ATEX0254
Category/Code	ExII1G / EEx 'ia' IIC T4
Ambient Temperature Range	-20°C to + 60°C (-4°F to 140°F)

* Operating voltages below 24V will restrict the choice of Zener Barriers and the output load range.

Typical minimum diameters for a range of load ratings are:								
Load (tonne)	5	10	20	50	100	200	500	1000
Diameter (mm)	28	35	48	70	96	130	200	290

Zener Barriers

The transmitter is normally operated on 24V with a standard 28V300R barrier channel with a diode return channel. The unit may also be used with the alternative 28V234R (or 240R) rating. Other combinations are shown below.

The 2-wire configuration lends itself to use with a 4-20mA current repeater in conjunction with the barrier, which dispenses with the need for the diode return channel and increases the possible output load. Repeaters are also available in 2-channel form for use with one double channel barrier, being a space-saving and particularly convenient solution for interfacing a double channel transmitter.

Typical Zener barrier interfaces include:

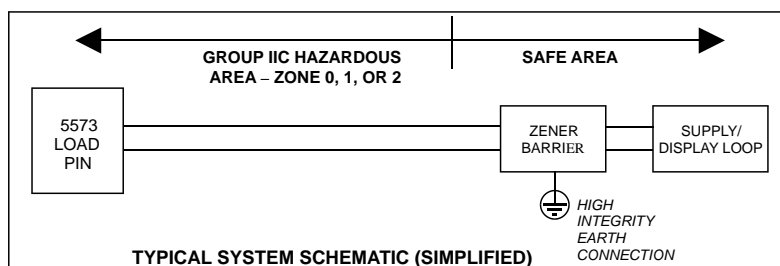
For single channel transmitters

Supply	Barrier	Load	RTK	P&F	MTL
21-25V	28V300R/28diode	0-350R	S965POS	Z787	7787+
17-25V	28V300R	0-650R	S951POS/TR93		
11-13V	15V60R/15Vdiode	0-60R	S936POS		
12-13V	15V100R	0-350R	S937POS/TR93		

For double channel transmitters, two channels as above, or

Supply	Barrier	Load	RTK	MTL
22-26V	28V300R/10V50R dual	0-300R		4788+
17-25V	28V300R dual	0-650R	S953POS/TR92	
12-13V	15V100R dual	0-350R	S933POS/TR92	

Detailed characteristics governing the choice of barriers are given in drawing SYS 5573-11-1. Connection details for Isolation Interfaces (alternative to Zener barriers) are given in SYS 5573-11-2.



Due to continuous development, Strainstall UK reserve the right to change specification without notice.

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