

# PEGASEM WST

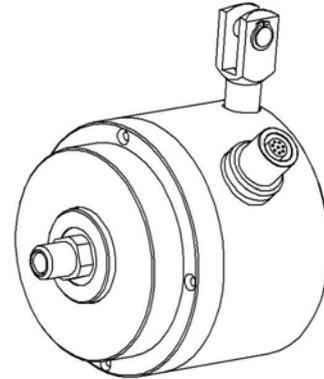
## Non-Contact Rotary Transducer for Sensor Signals

### Target Specification



### Features

- Designed for shaft-end mounting
- Two or four analogue measuring channels
- Programmable Amplifiers for Strain Gauges or Thermo Couples (K-type)
- Programmable Offset Compensation
- 5 VDC Power Supply capable of driving for 4 bridges (350  $\Omega$ -type or higher)
- Two or four voltage outputs ( 4.192 VDC, 12 bit)
- Maximum bandwidth 5 kHz per channel
- Long Term Rotational Speed up to 3000 revolutions per minute
- High durability and lifetime by non-contact signal transmission
- Optional pulse output with 128 or 1024 pulses per rev.
- Optional voltage output for revolution speed
- Waterproof housing according to IP65



### Applications

- Brake Disk Temperature Sensing
- Vehicle ABS Testing
- Vehicle ESP Testing
- Torque Measurement on rotating parts
- Power Train Measurements

### Concept

A rotary transformer transfers energy and setup data to the rotating section of the unit while measurement data is sent back to the stationary section through a high speed infrared transmission line. Because of the PEGASEM WST's ability to substitute mechanical sliprings in many applications, it is also called a *Non-Contact Slipring Transducer*. Because the WST does not use mechanical contacts, better transfer quality and extra long life are achieved compared with classic sliprings, even under harsh environmental conditions. Yet, the overall price of the WST is very competitive.



## Available Versions

Standard	
WST-2TC	Two-Channel Version for K-Type Thermo Couples with cold junction compensation, -20°C to 1000°C, resolution 1 °C
WST-2SG	Two Channel Strain Gauge Version, 5V-Bridge Power Supply, Resolution 12 bit
WST-2SG-2TC	Four-Channel Version, for 2 Strain Gauges and 2 Thermo Couples. Features see above.
WST-4TC	Four Channel Version of WST-2TC
WST-4SG	Four Channel Version of WST-2SG
Optional	
PULSE-128	Additional Channel with 128 Pulses per rev. Index and Analogue Speed Output
PULSE-1024	Additional Channel with 1024 Pulses per rev. Index and Analogue Speed Output

## Technical Data

SG-Channel	Min	Typ	Max	Unit
Signal Resolution		12		bit
Output Voltage	0	2.048	4.19	V
Programmable Sensivity for full scale output	10		1000	mV
Programmable Offset Compensation Range	-1000		+1000	mV
Bridge Power Supply Voltage	4.99	5.00	5.01	V
Bridge Power Supply Voltage (4SG Type only)	2.99	3.00	3.01	V
Minimum Bridge Resistance per channel	350			Ω
Channel Sampling Rate		10		kHz
TC-Channel	Min	Typ	Max	Unit
Signal Resolution		10		bit
Temperature Range with K-Type Thermo Couples	-20		1000	°C
Output Voltage @ 0 °C		1.000		V
Output Voltage @ 1000 °C		3.000		V
Channel Sampling Rate		0.1	10	kHz
Pulse Channel 128	Min	Typ	Max	Unit
Pulses per Revolution		128		
Analogue Rotational Speed Output <sup>1)</sup>	0		4.19	V
Analogue Speed Output Update Rate <sup>2)</sup>	10 <sup>3)</sup>		100	Hz
Incremental Pulse Level	0		5	V
Index Pulse Level <sup>4)</sup>	0		5	V
Pulse Channel 1024	Min	Typ	Max	Unit
Pulses per Revolution (HighRes Version)		1024		
Analogue Rotational Speed Output <sup>1)</sup>	0		4.19	V
Analogue Speed Output Update Rate <sup>2)</sup>	10 <sup>3)</sup>		1000	Hz
Incremental Pulse Level	0		5	V
Index Pulse Level <sup>4)</sup>	0		5	V
Power Supply				
Supply Voltage	8	12	30	VDC
Supply current @ 12VDC		tbd	100	mA

<sup>1)</sup> The relationship between Speed Output Voltage and Actual Speed is programmable. It also depends on the wheel size.

<sup>2)</sup> The speed update rate is proportional to the pulse frequency at lower speeds but never exceeds the maximum specified value.

<sup>3)</sup> @ zero speed (v = 0)

<sup>4)</sup> TTL-compatible pulses. The index pulse duration is equal to one incremental pulse. Index not available on all versions.