Get to Know TEDS

Interface Webinar Wednesday
March 23, 2016

Presented by Jay & Jeff

What is TEDS?

- Stands for Transducer Electronic Data Sheet
- Small chip containing data relevant to the sensor, including:
  - Essential identification data such as serial number
  - Calibration data
  - Additional Important Properties
- Complies with IEEE 1451.4 International Standards
- TEDS TDL – Template Description Language

The History of TEDS

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- IEEE 1451.1 started in 1996 to produce an overall road map for systems interfacing sensors with instrumentation
- IEEE 1451.4 was started to define smart sensors
  - working group including Dallas Semiconductor, National Instruments & several sensor manufacturers

DALLAS SEMICONDUCTOR

NATIONAL INSTRUMENTS

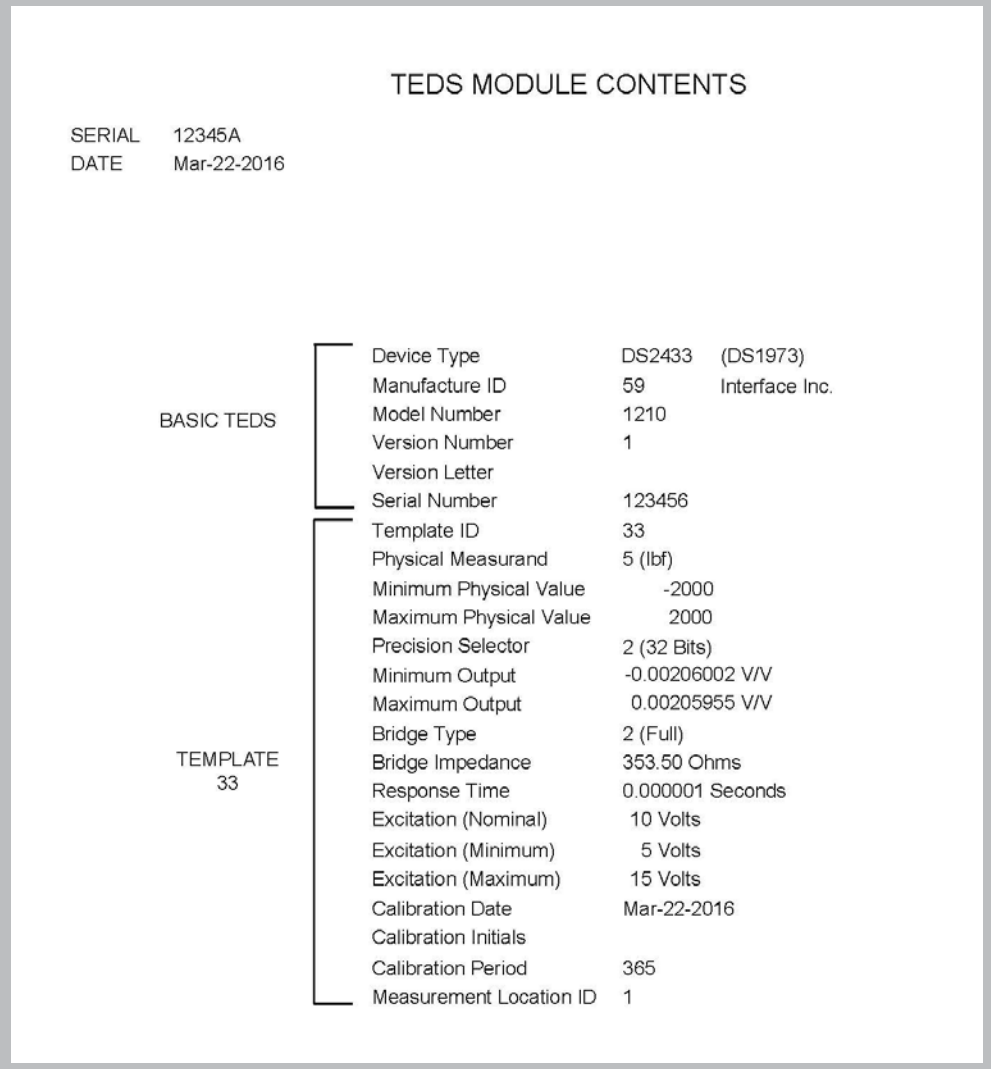
- Goal: To produce a standard for manufacturers to store ID and calibration data on the sensor itself, allowing instrumentation manufacturers to design equipment that could read the data on any sensor. The result was TEDS.

TEDS Template

- Template Description Language (TDL)
  - The type of number, precision and the physical units that are allowed to be used in a TEDS template. This system was designed to use the least possible memory.
- Standard TEDS Contents
- Basic TEDS includes:
  - Manufacturer ID
  - Model Number
  - Version Letter
  - Version Number
  - Serial Number

Basic TEDS (64 bits)
Selector (2 bits)
Template ID (8 bits)
Standard Template TEDS (ID = 25 to 39)
Selector (2 bits)
Extended End Selector (1 bit)
User Data

Template 33



TEDS MODULE CONTENTS

SERIAL 12345A
DATE Mar-22-2016

BASIC TEDS	Device Type	DS2433	(DS1973)
	Manufacture ID	59	Interface Inc.
	Model Number	1210	
	Version Number	1	
	Version Letter		
	Serial Number	123456	
TEMPLATE 33	Template ID	33	
	Physical Measurand	5 (lbf)	
	Minimum Physical Value	-2000	
	Maximum Physical Value	2000	
	Precision Selector	2 (32 Bits)	
	Minimum Output	-0.00206002 V/V	
	Maximum Output	0.00205955 V/V	
	Bridge Type	2 (Full)	
	Bridge Impedance	353.50 Ohms	
	Response Time	0.000001 Seconds	
	Excitation (Nominal)	10 Volts	
	Excitation (Minimum)	5 Volts	
	Excitation (Maximum)	15 Volts	
	Calibration Date	Mar-22-2016	
	Calibration Initials		
	Calibration Period	365	
	Measurement Location ID	1	

When Do You Need TEDS?

- Inventory Management
- Plug & Play – ease and speed of set-up and connectivity

Other Benefits:

- Data reliability
- Eliminate manual entry and associated error

We Can Build TEDS into Any Force Sensor

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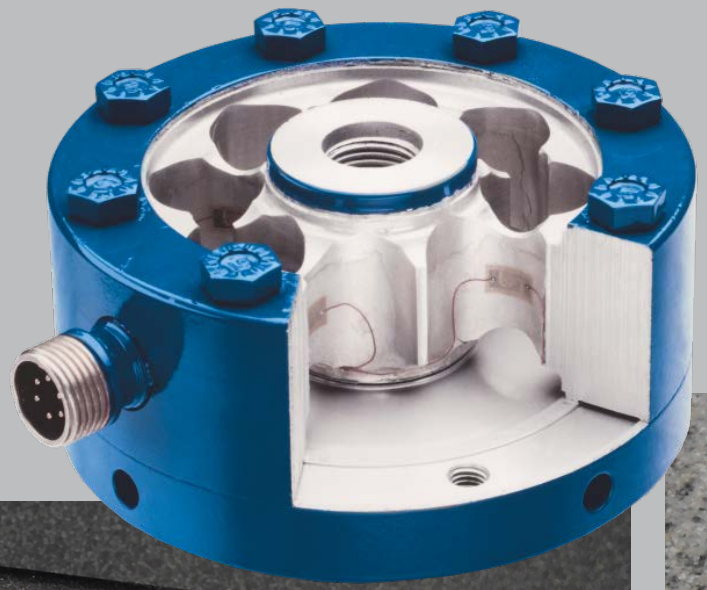
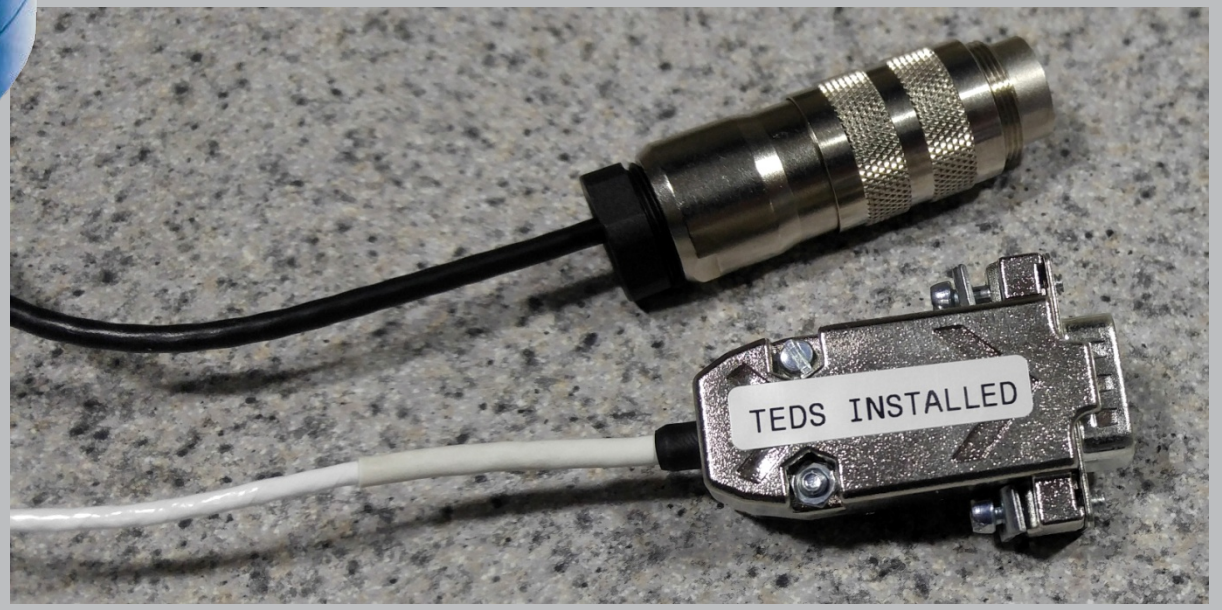
- Internal
- In-line





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- Our highest precision load cells now include TEDS as a standard

interface
ADVANCED FORCE MEASUREMENT

Get to Know: TEDS

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Plug & Play Instruments

- 9860 High Speed Digital Indicator
- 9840 Load Cell Indicator
- 9320 Potable Load Cell Indicator
- Your Existing TEDS Compatible Instrumentation

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Get to Know: TEDS

Programming TEDS

- The Interface Service Department can program TEDS for you!
- You can purchase 3rd party software & hardware to program TEDS yourself at an average cost of $1500

The Future of TEDS

- TEDS and the IOT
- Virtual TEDS

Thank You

Ask Us About TEDS!