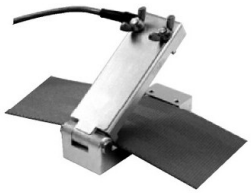
Seat Belt Tension Transducer

LBT-A/B/D/E



LBT-A-20KNSA1-IDT TEDS



LBT-B-200NSA1-P



LBT-D-100NSA1-H



LBT-E-SA1-IDT TEDS

Measuring tension during crash tests

These sensors use a strain gage to measure the tension applied to the seat belt due to the behavior of a dummy during a crash. Please feel free to contact us regarding the design and manufacturing of sensors for special seat belt.

Specifications

Models	LBT-A-20KNSA1-IDT	LBT-B-200NSA1-P	LBT-D-100NSA1-H	LBT-E-SA1-IDT
Features				
	·Large output ·General purpose	·For CRS	·For CRS	·Compact and lightweight ·Cable connection is selectable
Performance				
Rated Capacity	20 kN	200 N	100 N	15, 20 kN
Nonlinearity	Within ±2% RO	Within ±3% RO	Within ±1.5% RO (With a built-in compensation circuit)	Within ±1.5% RO (15 kN), within ±2.0% RO (20 kN) (With a built-in compensation circuit)
Rated Output	Approx. 2.5 mV/V	Approx. 0.75 mV/V	Approx. 1 mV/V	Approx. 1.5 mV/V (15 kN) Approx. 1.0 mV/V (20 kN)
Environmental Characteristics				
Safe Temperature	0 to 60°C			
Compensated Temperature	10 to 50°C			
Temperature Effect on Zero	Within ±0.1% RO/°C			
Electrical Characteristics				
Safe Excitation	10 V AC or DC	10 V AC or DC	10 VDC	8 VDC
Recommended Excitation	1 to 5 V AC or DC	1 to 5 V AC or DC	2 to 10 VDC	2 to 5 VDC
Input Resistance	350 Ω ±2%	120 Ω ±10%	700 to 900 Ω	240 to 440 Ω
Output Resistance	350 Ω ±2%	120 Ω ±10%	700 Ω ±3%	240 Ω ±7%
Insulation Resistance	500 MΩ or more (With 25 VDC applied)			
Cable	4-conductor (0.08 mm²) vinyl shielded cable, 3.2 mm diameter by 7 m long, terminated with a connector plug 3RT01-PE7M (TEDS installed) (Shield wire is not connected to the case.)	4-conductor (0.08 mm²), vinyl shielded cable, 3.2 mm diameter by 5 m long, terminated with a connector plug PRC03-12A10-7M (Shield wire is not connected to the case.)		4-conductor (0.08 mm²) vinyl shielded cable, 3.2 mm diameter by 7 m long, terminated with a connector plug (Measuring instrument side: 3RT01-PE7M (TEDS installed)) (Shield wire is not connected to the case.)
Mechanical Properties				
Safe Overloads	100%	150%	120%	
Weight	Approx. 130 g	Approx. 90 g	Approx. 65 g	Approx. 72 g
Enclosure	Metallic finish			
Material	Aluminum alloy			Aluminum alloy and stainless steel
Others				
	Not waterproofed. Single belt calibration (Our standard seat belt)		Not waterproofed. Single belt calibration (Our standard seat belt) Because this product has a built-in compensation circuit, use with excitation voltage of 2 to 10 VDC. (No specifications are guaranteed at the excitation less than 2 VDC.) Data on the "Test Data Sheet" is based on 2 V bridge excitation. Box with a built-in compensation circuit is located approx. 300 mm far from the cable end.	Because this product has a built-in compensation circuit, use with excitation voltage of 2 to 5 VDC. (No specifications are guaranteed at the excitation less than 2 VDC.) Data on the "Test Data Sheet" is based on 2 VDC bridge excitation. This product has 2 types - left seat type and right seat type - depending on the direction in which the cable comes out. Not waterproofed. Single belt calibration (Our standard seat belt) We accept calibration for the supplied seat belt. Cable exchangeable model is also available by using connectors.