FIBER OPTIC SENSORS

Model:	FOT-L	FOT-H	FOT-M	FOT-C	FOT-F	TPT-32	FOT-HERO	FRI	FOS	EFO	SFO-W	FOD	FOL	FOP-M	FOP-M-INVIVO	FOP
Description:	Fiber-optic temperature probe	Fiber-optic high temperature probe	High accuracy medical FO temperature probe	Custom fiber-optic temperature probe	NPT fitting temperature probe	Fiber-optic temperature probe for power transformer	Fiber-optic temperature probe	Fiber-optic refractive index probe	Fiber-optic strain gage	Embeddable fiber-optic strain gage	Surface weldable fiber-optic strain gage	Fiber-optic linear position and displacement transducer	Fiber-optic load bolt	Fiber-optic pressure transducer	Fiber-optic pressure transducer (medical)	Fiber-optic pressure transducer
Range:	-40 to 250 °C	-40 to 350 °C	-40 to 85 °C	-40 to 350 °C (cable dependent)	-40 to 350 °C (250°C for Teflon thermowell)	-40 to 175 °C	0 to 200 °C	1.0000 to 1.7000 RI	Up to 10 000 με	Up to 10 000 με	Up to 10 000 με	20 mm linear stroke	0 - 4 500 kg (0 - 10 000 lbs)	0-5 PSI; 0-50 PSI; 0-150 PSI; 0-1000 PSI	-50 to 300 mmHg	0-5 PSI to 0-5000 PSI
Accuracy:	± 1 °C	± 1 °C	± 0.3 °C NIST traceable	Down to ± 0.3 °C NIST traceable	± 1 °C	± 2 °C	± 3 °C	± 0.0005 RI	Range dependent	Range dependent	Range dependent	0.02 mm	Range dependent	< ± 1%	± 1 mmHg or ± 1% of reading, whichever is greater	0.1% of FS
Response time:	1.5 sec.	1.5 sec.	< 750 ms	Down to 20 ms depending on sheathing	Thermowell dependent	0.25 sec.	< 1 ms	Medium viscosity dependent	Conditioner limited	Conditioner limited	Conditioner limited	Conditioner limited	Conditioner limited	Conditioner limited	Conditioner limited	Conditioner limited
EMI/RFI immune:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Resolution:	0.1 °C	0.1 °C	0.1 °C	0.1°C	0.1 °C	0.1 °C	0.03 °C	0.0001 RI	< 0.01 %	< 0.01 %	< 0.01 %	0.002 mm	0.01% of FS	0.1% of FS	0.5 mmHg	0.01% of FS
Probe dimensions (at tip) :	OD: 1.4 mm	OD: 1.45 mm	OD: 0.800 mm	OD: from 0.350 mm (custom)	NPT male thermowell	OD: 0.150 mm	OD: 0.150 mm	NPT male thermowell	OD: 0.210 mm Length: 6 to 13 mm	OD: 30 mm Length: 70 mm	Metal sheet: 50.8 × 25 × 4.7 mm	Linear stroke: 20 mm OD: 13 mm	Threads: 3/8 – 24 UNF OD: 9.5 mm Length: 76 mm	OD: 0.800 mm Length: 10 mm	OD: 0.550 mm Length: 0.5 mm	¼ NPT female fitting
Probe material:	All Teflon™	Polyimide / fiberglass sheathing	Polyimide + hytrel	Custom designed	Choice of Teflon, ceramic or stainless steel thermowell	Teflon; GaAs technology	Unsheathed; Si:H technology	Stainless steel; MEMS technology	All glass fiber	Stainless steel	Metal sheet	Aluminum or composite material	Carbon steel	Custom package; MEMS technology	Custom package; MEMS technology	Housing and diaphragm material: 17-4 PH stainless steel
Fiber-optic cable:	2 meters length; 0.95 mm OD Teflon™	2 meters length; 1 mm OD fiberglass	2 meters length; 0.8 mm OD polyimide / Hytrel™cable	Choice of length and fiber-optic cables	2 meters length; 3 mm OD PVC or polyurethane (max. 85 ºC)	1 to 15 meters length; 3 mm OD spiral wrap Teflon	2 meters length; choice of fiber-optic cables	2 meters length; 2 mm OD PVC or polyurethane	2 meters length; choice of fiber-optic cables	2 meters length; choice of fiber-optic cables	2 meters length; choice of fiber-optic cables	2 meters length; choice of fiber-optic cables	2 meters length; 3 mm OD PVC or polyurethane	2 meters length; Choice of fiber-optic cables	2 meters length; 0.250 mm OD acrylic	2 meters length; choice of fiber-optic cables
Operating temperature:	-40 to 250 °C	-40 to 350 °C	-40 to 85 °C	Cryogenic up to 350 °C	-40 to 350 °C (tube dependent)	-40 to 175 °C	-40 to 200 °C	-40 to 100 °C	-40 to 350 °C	-40 to 350 °C	-40 to 350°C	-40 to 350 °C	-40 to 350 °C	-40 to 250 °C	10 to 50 °C	-40 to 250 °C
Signal conditioners:	All FISO's (except Veloce)	All FISO's (except Veloce)	All FISO's (except Veloce)	All FISO's (except Veloce)	All FISO's	Nortech	Veloce 100	All FISO's	All FISO's	All FISO's	All FISO's	All FISO's (except Veloce)	All FISO's	All FISO's	All FISO's	All FISO's
NOTES:								Available without fitting	Available in temperature compensated			Linearity: 0.08% of FS		Proof pressure: [0-5 PSI: 1000% 0-50 PSI: 500% 0-150 PSI: 300% 0-1000 PSI: 200%] of rated pressure	Proof pressure: 4000 mmHg	Proof pressure: 150% of rated pressure

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FIBER OPTIC SIGNAL CONDITIONERS

Model:	FTI-10	UMI	DMI	FTI-100i	BUS System	VELOCE 50 System	VELOCE 100 System	OSR System	MW System	Nortech System
Description:	Portable single-channel multipurpose signal conditioner	Multichannel and multipurpose signal conditioner	Multichannel and multipurpose signal conditioner	Multichannel laboratory and R&D signal conditioner with fast sampling rate	Parallel multichannel laboratory and R&D signal conditioner with fast sampling rate	Parallel multichannel laboratory and R&D signal conditioner with high speed sampling rate	Parallel multichannel laboratory and R&D signal conditioner with high speed sampling rate for temperature point measurement	Multichannel Optical Slip-Ring system to measure temperature inside a microwave oven with turntable	Multichannel Optical Slip-Ring system to measure temperature inside a microwave oven with turntable; full control over MW oven from computer	Temperature monitoring system for power transformer winding
Probe/Conditioner:	Fabry-Pérot / Fizeau	Fabry-Pérot / Fizeau	Fabry-Pérot / Fizeau	Fabry-Pérot / Fizeau	Fabry-Pérot / Fizeau	Fabry-Pérot / Fabry-Pérot	Fabry-Pérot / Fabry-Pérot	Fabry-Pérot / Fizeau	Fabry-Pérot / Fizeau	GaAs spectrum
Number of channel:	1	4 or 8	16 or 32	4 or 8	1 to 8	1 to 8	1 to 8	4, 8 or 16	4, 8 or 16	1 to 6
Speed (Sampling Rate):	10 Hz	20 Hz	20 Hz	Up to 1 000 Hz	Up to 1 000 Hz	200 kHz	Up to 200 kHz	20 Hz	20 Hz	0.1 Hz
Channel switching / speed:	One-channel only	Sequential / 150 ms	Sequential / 150 ms	Sequential / 500 ms	Parallel (simultaneous-reading of each channel)	Parallel (simultaneous-reading of each channel)	Parallel (simultaneous-reading of each channel)	Sequential / 150 ms (turntable independent)	Sequential / 150 ms (turntable independent)	Sequential / 10 sec.
Precision:	0.025 % of FS	0.025 % of FS	0.025 % of FS	0.05 % of FS	0.05 % of FS	0.3 % of FS	0.3 % of FS	0.025 % of FS	0.025 % of FS	± 2 °C
Resolution:	0.01 % of FS	0.01 % of FS	0.01 % of FS	0.01 % of FS	0.01 % of FS	0.1 % of FS	0.03 % of FS	0.01 % of FS	0.01 % of FS	0.1 °C (analog and digital outputs)
Dynamic range:	15 000 :1	15 000 :1	15 000 :1	15 000 :1	15 000 :1	3 000 :1	3 000 :1	15 000 :1	15 000 :1	15 000 :1
Built-in data logging:	Programmable 50 000 samples	Programmable 50 000 samples	Programmable 50 000 samples	5 000 samples	5 000 samples per channel	None	None	Programmable 50 000 samples	Programmable 50 000 samples	3 Programmable dataloggers
Operating mode:	Direct (front panel) or RS-232 (software provided)	Direct (front panel) or RS-232 (software provided)	RS-232 (software provided)	Direct (front panel) or RS-232 (software provided)	RS-232 (software provided)	RS-232 (software provided)	RS-232 (software provided)	RS-232 (software provided)	RS-232 (software provided) and full control over MW oven	RS-232 (software provided)
Outputs:	RS-232 and ± 10 Volts (4-20 mA optional)	RS-232 and ± 10 Volts	RS-232 and modem connection (optional)	RS-232 (optional) and ± 10 Volts (optional)	± 10 Volts, BNC connectors	± 5 Volts, BNC connectors	± 5 Volts, BNC connectors	RS-232	RS-232	RS-232 and RS-485 / 4-20 mA or 0-10 Volts / 7 form-C (SPDT) relays
Upgradability (number of channels):	No	No	No	No	Yes, plug-in module, may be cascade-connected	Yes, plug-in module, may be cascade-connected	Yes, plug-in module, may be cascade-connected	No	No	Yes, can be networked for up to 192 channels
Upgradability (firmware):	Flash ROM upgradable via RS-232	Flash ROM upgradable via RS-232	Flash ROM upgradable via RS-232	ROM upgradable (at factory)	ROM upgradable (at factory)	Flash ROM upgradable via RS-232	Flash ROM upgradable via RS-232	Flash ROM upgradable via RS-232	Flash ROM upgradable via RS-232	Flash ROM upgradable via RS-232
Autonomy:	8 hours batteries	None	None	None	None	None	None	None	None	None
Display:	1 × 16 graphic liquid crystal display with back-light	Vacuum Fluorescent 4 lines × 20 characters	None	240 × 64 graphic liquid crystal display with back-light	None	None	None	None	None	Large LED status display + one 1.6 cm LED display per channel
Dimensions / enclosures:	1/8 DIN	1/2 DIN	19 inches rackmount chassis (3U); NEMA-4 enclosure optional (W×D×H) 300 mm × 240 mm × 360 mm	(W×D×H) 257 mm × 313 mm × 147 mm	19 inches rackmount chassis (6U)	19 inches rackmount chassis (3U)	19 inches rackmount chassis (3U)	220 mm diameter × 180 mm height (signal conditioner)	220 mm diameter × 180 mm height (signal conditioner)	(W×D×H) 20.3 mm × 7.6 mm × 30.5 mm; can be supplied with NEMA-4 enclosure

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