



Modular SmartScan FBG Interrogator

Key Features

- 4, 8, 12 or 16 Optical Channels
- 40 or 80 nm Bandwidth
- Solid State
- Rack Mount Enclosure
- Robust Optics
- Multiple Interface Options

About Modular SmartScan

Building on the success of the SmartScan FBG interrogator, the Modular SmartScan offers increased channel capacity for applications requiring higher FBG sensor or channels than the current 4 channel version offers.

Modular SmartScan has been developed in response to demand from many clients seeking the same SmartScan performance and value for money but with greater capacity. For example, clients in the marine sector requiring more optical channels for hull monitoring, and Oil & Gas clients wishing to monitor large structures such as riser pipes.

Modular SmartScan is offered in a 19 inch rack format with all connections rear mounted for easy inclusion in instrumentation racks.

Specifications

Measurement and Processing		Modular SmartScan		Modular SmartScan Lite		
Wavelength Range		40 nm (1528 to 1568 nm) or 80 nm (1528 to 1608 nm)				
Number of Optical Channels		4, 8, 12 or 16				
Maximum Number of Sensors / Channel		16				
Scan Frequency (all sensors simultaneously)		4-40, 8-40	2.5 kHz	250 Hz		
		12-40, 16-40	1.25 kHz			
		4-80, 8-80	1.25 kHz			
		12-80, 16-80	500 Hz			
Repeatability ¹		< 1 pm				
Wavelength Stability		< ± 5 pm over operating temperature range, ± 20 pm over 25 years				
Dynamic Range by Variant ²		Model	04-40	08-40	12-40	16-40
		DR	28 dB	28 dB	25 dB	25 dB
		Model	04-40 XR	08-40 XR	12-40 XR	16-40 XR
		DR	29 dB	29 dB	29 dB	29 dB
		Model	04-80	08-80	12-80	16-80
		DR	27 dB	27 dB	24 dB	24 dB
		Model	04-80 XR	08-80 XR	12-80 XR	16-80 XR
		DR	29 dB	29 dB	28 dB	28 dB
Gain Control		9 levels, per channel or per sensor, automatic or user controlled				

Mechanical, Environmental and Electrical	
Dimensions (W x H x D)	19" rack mount x 3U x 11" deep
Weight	3 kg / 6.6 lb
Operating Temperature	0 to +50 °C / 32 to 122 °F
Comms Interfaces ³	Ethernet (UDP-IP), Options for Profibus and Modbus RTU
Data Connector	RJ45 and 9 way D type serial for Modbus/Profibus
Optical Connector ⁴	FC/APC
Input Voltage	100-250 V AC 50/60 Hz with mains adaptor supplied (+g to +36 VDC option)
Power Consumption	Typ. 20 W, max 25 W using mains adaptor

1. Measured over 1 minute, standard uncertainty (1σ distribution).
 2. Total tolerable optical attenuation without loss of performance.

3. Serial data rates limited by protocol and client hardware.
 4. Connector required to be fitted on cable to mate with unit.

Specifications may change without notice

Ordering Information

Product Type	# of Channels	Wavelength Range	Scan Rate	Dynamic Range	Comms. Interface	ATEX Certified	World Zone Plug
S-Mod	XX	XX	X	XX	XXX	X	XX
	04	40	F	DR	UDP	EX	UK
	08	80	L	XR	PRB		EU
	12				TCP		US
	16						CN
							IN

Order code example:

S-Mod-16-40-L-DR-TCP-EX-US

Variant Description	Variant Options	Variant Code
# of Channels	4 Channels	04
	8 Channels	08
	12 Channels	12
	16 Channels	16
Wavelength Range	40 nm	40
	80 nm	80
Scan Rate	Standard (See spec table - Scan Freq.)	F
	Lite (250 Hz)	L
Dynamic Range	Standard range (24-28 dB model dependant)	DR
	Extended range 29 dB	XR
Comms. Interface	Ethernet (UDP-IP)	UDP
	Profibus	PRB
	Modbus TCP	TCP
ATEX Certification	ATEX Certified (40 nm and DR variants only)	EX
	Not ATEX Certified	Blank
Mains Plug World Zone	United Kingdom (IEC Type G)	UK
	European Union (IEC Type C, or F)	EU
	United States (IEC Type A or B)	US
	China (IEC Type A, C or I)	CN
	India (IEC Type C, D or M)	IN