



W4 with esm408 pictured

- **Increases Channel Number**
- **Enables Huge Sensor Count**
- **Assist with Redundancy**
- **Compatible with W3, W4 and W5 Interrogators**

ESM Series switching modules expand a 4-channel interrogator to 8-channel or 16-channel with the use of high speed optoelectronic switches. The interrogator's full bandwidth and sensor capacity is available on every output channel, whilst the update rate is reduced by the switching ratio. An Ethernet control interface allows simple networking with Smart Fibres interrogators.

ECM Series coupling modules provide channel expansion with the use of passive fibre couplers. The interrogator's output power, bandwidth and sensor capacity are shared across the output channels.

	Switch Expansion Modules		Coupler Expansion Modules	
	esm408	esm416	ecm408	ecm416
Number of Optical Channels In	4	4	4	4
Number of Optical Channels Out	8	16	8	16
Wavelength Range	1510 to 1590 nm		1510 to 1590 nm	
Bandwidth per Output Channel	Full interrogator channel bandwidth		Interrogator bandwidth shared between channels	
Scan Frequency	½ interrogator rate	¼ interrogator rate	Full interrogator rate	
Signal Strength Reduction	None		6 dB	12 dB
Number of Switching Cycles	Tested to 50 billion		N/a	
Optical Connectors	FC/APC		FC/APC	
Power Supply	Powered from instrument		None required	
Communication	DIN connection to instrument		None required	
Operating Temperature	10 to 40 °C		10 to 40 °C	
	W4	114 x 234 x 132 mm	114 x 234 x 132 mm	
	W5	114 x 234 x 132 mm	114 x 234 x 132 mm	
Example	80nm, 1 kHz W5 interrogator and esm416: 4 * 80nm, channels at 1 kHz become 16 * 80nm channels at 250 Hz		80nm, 1 kHz W5 interrogator and ecm416: 4 * 80nm, channels at 1 kHz become 16 * 20nm channels at 1 k Hz	