

NELSON SENSORS

Nelson sensors use a well proven technique of reflective opto-electronics to enable applications where space is extremely limited. For example, where yarns run parallel, Nelson can detect on tracks spaced by as little as 10 mm.

Available in two forms - as a moving yarn detector or as a yarn presence detector. Both versions simply mount to one side of the yarn track.

MOVING YARN VERSION

This version will detect breaks in yarns from 8 dtex up to carpet yarns. It normally detects yarns which are traversing or travelling in straight tracks. This detector can be mounted from 5 to 6 mm from an 8 dtex yarn track. For higher counts, this distance can be greater, up to 15-20 mm in some cases.

YARN PRESENCE VERSION

Designed for the detection of yarns following straight line paths, this unit is not speed sensitive. It will detect the presence or absence of moving and stationary yarns. With detection on yarns as fine as 5 dtex, it can be located 5 to 8 mm from the yarn track.

Nelson detectors are suited to a wide range of natural or synthetic yarns as well as blends and filaments.

OPERATING PARAMETERS

	MovingYarn	Yarn Presence
Balloon/ traverse frequency	3 Hz to > 300 Hz	3 Hz to > 300 Hz
Linear yarn speed	> 30 m/minute	0 to > 8,000 m/minute
Yarn count	8 dtex to 5,000 dtex	5 dtex to 5,000 dtex
Start-up delay	10 mS to 2 S	10 mS to 2 S
Reaction time	5 mS to 2 S	10 mS to 2 S
Detector to yarn spacing	5 to 6 mm, up to 20 mm	5 to 8 mm, up to 20 mm
Yarn spacing	10 mm minimum	10 mm minimum
Electrical supply	+24 Vd.c. with up to 2 V ripple	+ 24 Vd.c. with up to 2 V ripple
Current consumption	approx. 25 mA@ 24 Vd.c.	approx. 25 mA@ 24 Vd.c.

OUTPUT

A wide range of devices can be directly controlled - including cutters, relays, solenoids and warning lamps. Direct inputs can be given to computer systems - such as Programmable Logic Controllers (PLCs) and PCs. A red LED indicates that the unit has detected a break.

OUTPUT OPTIONS

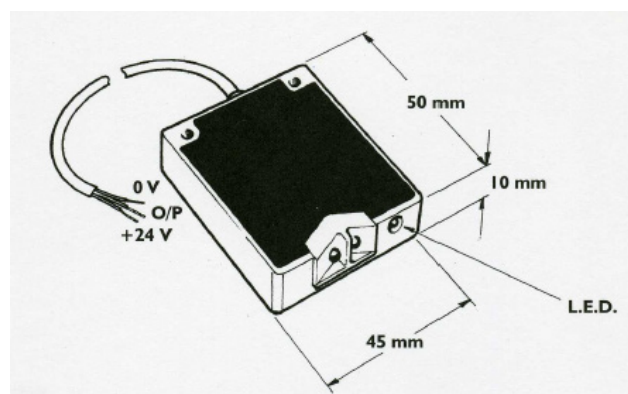
Step: +ve or -ve 24 Vd.c. to 36 Vd.c. @ 200mA max.
 Pulse: +ve or -ve 24 Vd.c. to 36 Vd.c. @ 1 A max.

OPERATING ENVIRONMENT

Nelson detectors are housed in die cast enclosures and completely potted in epoxy resin. Operating from +3 ° C to +50 ° C they are waterproof, vibration proof and resistant to spin finish.

FLEXIBILITY

All of the operating parameters can be preset to suit particular applications.



Dent
 Custom-made
 textile sensors