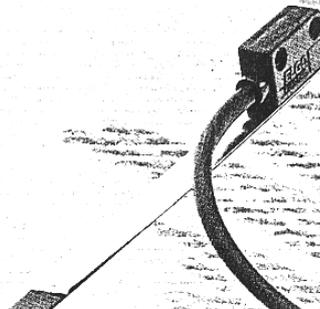
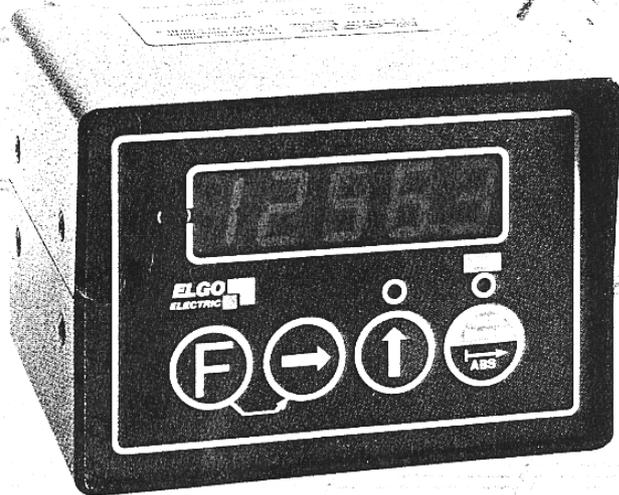


## Magnetic length Measuring System MX18



## Magnetic Length Measuring System MX18

The Magnetic Length Measuring System MX is used by machinery builders in applications that require precision set-up, and, in particular, provide an accurate, inexpensive control system for cut-to-length and other position sensitive applications.

### System Explanation

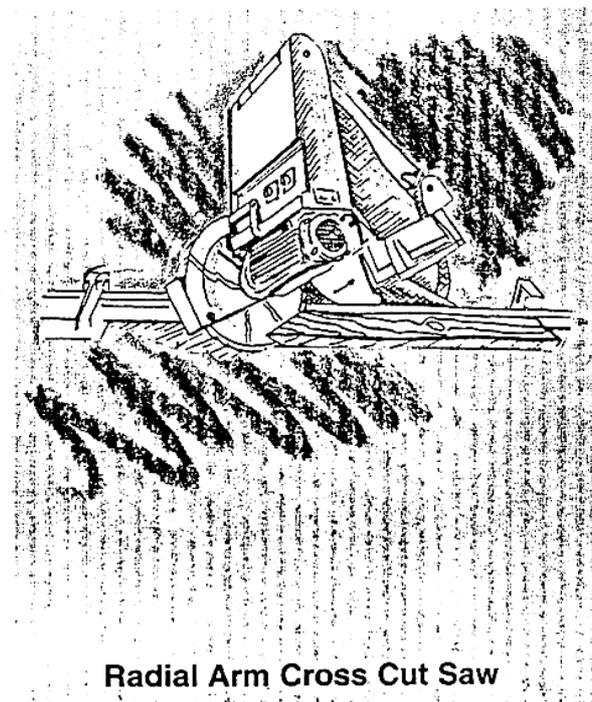
The basic Magnetic Length Measuring System can be purchased as either a 'stand-alone' digital readout system, or as a sensor system that will provide an output for a CNC or other type of machine control.

### High Accuracy

With a maximum cumulative error of 0.02 mm per meter and resolution of 0.1 mm this measuring system can be provided in lengths of the tape up to 25 meters. This accuracy is maintained throughout the 25 meters of tape, providing the user with a very precise system that other mechanical measuring systems cannot provide.

### Machinery and Applications

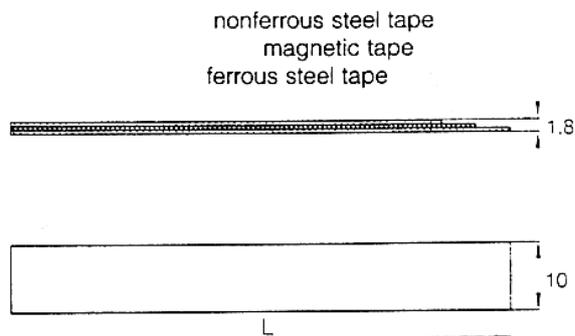
Grinders/ Milling Machines/ Lathes, Horizontal Boring Machines/ Injection Molding Machines/ Wood Working Machines/ Sheering Machines/ Machine Tools/ Robotics/ Material Handling/ Bending and Forming Machines - Cut-to-Length Processes, Radius and Angular Positioning



Radial Arm Cross Cut Saw

## Magnetic Tape MB 17-40

The flexible magnetic tape is precisely calibrated with north and south poles. These divisions are picked up by a sensor. The space between poles on the tape provides an analog sinusoidal voltage output for the sensor.



The complete tape comprises of 3 components:

- A) The magnetized highly flexible tape whose underside is bonded to:
- B) a ferrous flexible steel tape. This tape shields the rubber tape from mechanical damage, and at the same time forms the magnetic path, while also providing security against external magnetic influences. A and B are supplied factory bonded.
- C) To enable the above tape to be flexible for transport and mounting, the third steel tape (nonferrous) is supplied separately. As mentioned earlier, this used to protect the magnetic tape from mechanical damage and is fitted over the tape.

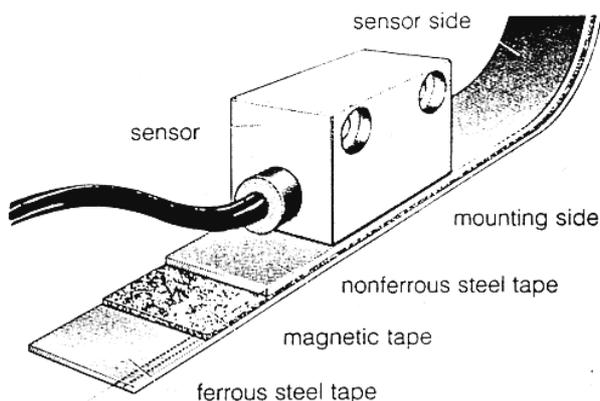
### Tape Installation

Double sided tape or any other appropriate adhesive can be used to position the tape on the machine or process.

The tape can be mounted at any angle.

Due to the tapes high flexibility, it can cope with uneven surfaces and radii without affecting accuracy. A second steel tape is provided so it can be fitted on top of the magnetic tape ensuring a high degree of protection. The protective tape C is provided for mechanical protection only, and is not necessary for measurement purposes. The tape could also be covered by any other plastic or non-ferrous metal protecting material, providing that the gap between tape and sensor is maintained from 0.1 to 2.5 mm.

## Magnetic Sensor MS 17-60



The tape is impervious to oil, dust, chips, and sawdust, allowing the magnetic sensor and tape to be installed in the most arduous machine and shop floor environments.

### Magnetic Tape MB 17-40 - Technical Data

A magnetic material bonded to ferrous tape with stainless steel protection, supplied loose.

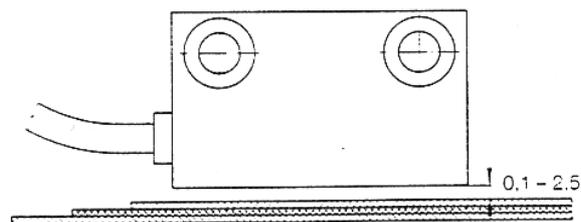
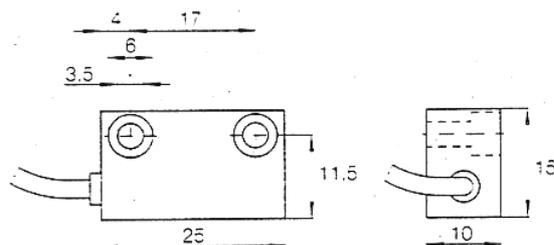
Supplied in lengths of 1 m minimum to 25 m maximum (rolled up).

|                          |                |
|--------------------------|----------------|
| Accuracy:                | 0.1 mm/m       |
| Temperature Coefficient: | 0.000011 mm/°C |
| Operation Temperature:   | -5°C to +45°C  |
| Protection Class:        | IP 67/Nema 4   |

The Magnetic Sensor is supplied with a standard lead length of 3.0 m. Because the resistance of the cable has an influence on the signal, it is not possible to add cable when installed.

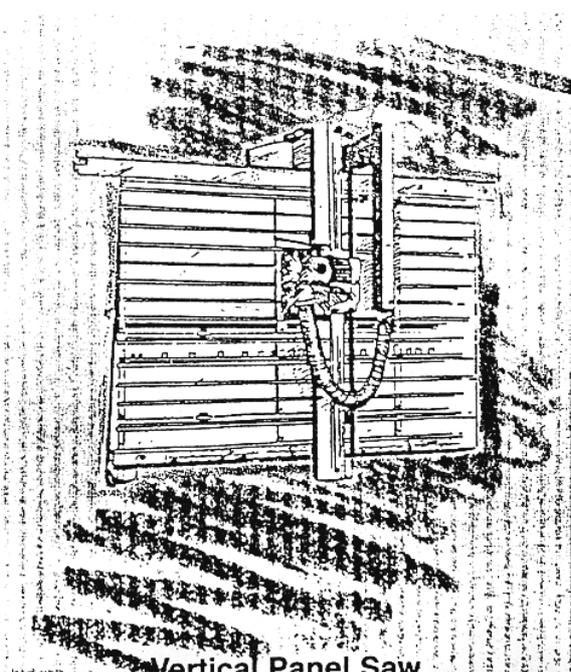
Other length of up to 25 m are available upon request.

The flexible cable comprises of 6 cores with shield and comes with a connector suitable for both the Digital Read Alone Display Control or the Signal Translator Control.



### Magnetic Sensor - Technical Data

|                          |                             |
|--------------------------|-----------------------------|
| Maximum Operating Speed: | 300 m/min                   |
| Cable Length:            | 3 m (max 25 m upon request) |
| Operating Temperature:   | -5°C to +45°C               |



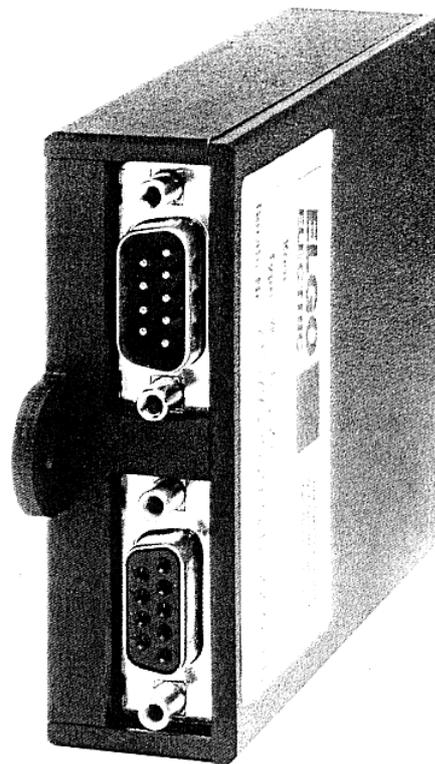
## Puls Condition Module MC 18.50

### Signal Translators

The various signal translators take the sinusoidal signals from the magnetic sensing head (Model MS 17.60) and convert them into square wave signals (the same as encoder outputs) for use in the customers control circuitry. To fulfill the customers many application needs, various outputs and also the 10 - 30 Volt units are available with complementary (differential) outputs.

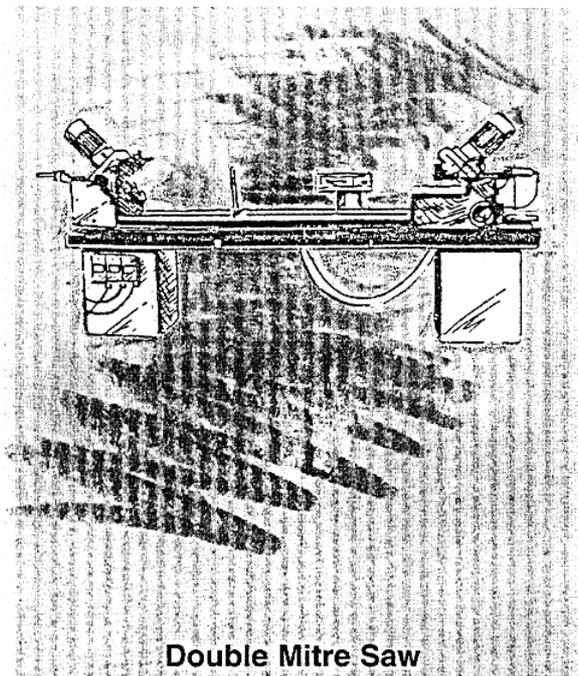
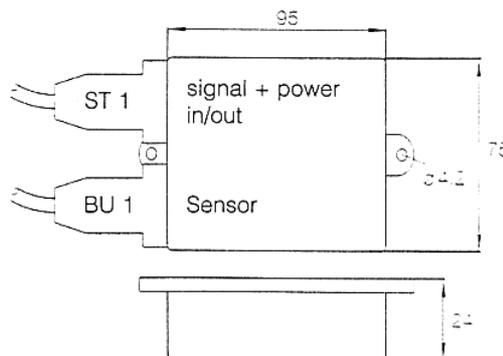
### Types available

| Model    | Output Type                 | Input Voltage |
|----------|-----------------------------|---------------|
| MC 18.50 | 10 - 30 V A/B Signal        | 10 - 30 VDC   |
| MC 18.51 | 5 V TTL A/B Signal          | 10 - 30 VDC   |
| MC 18.52 | Clock up/down Directional   | 10 - 30 VDC   |
| MC 18.53 | 10 - 30 V A/B Complementary | 10 - 30 VDC   |
| MC 18.54 | 5 V TTL Complementary       | 5 VDC         |

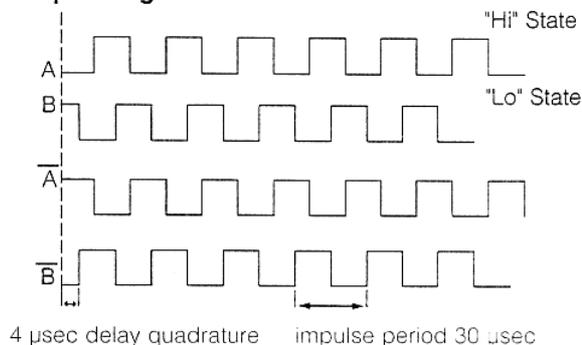


### Signal Translator Output Pin Configuration ST 1

- Pin 1 0 V
- Pin 2 10 - 30 VDC or 5 VDC (for Model MC 18.54)
- Pin 3 Channel A/ Clock up (for Model MC 18.52)
- Pin 4 Channel B/ Clock down (for Model MC 18.52)
- Pin 5 Earth Ground/ Screen
- Pin 7 Channel  $\bar{A}$
- Pin 8 Channel  $\bar{B}$
- Rest - Not used



### Output Diagrams



### Clock up/down Diagram

