



- ✓ Three axis photocell block, designed exclusively for the control of the abrasive belt translation on sanders and calibrating machine.
- ✓ Detection made through three optical infrared sensors, with adjustable operating zone to adapt itself to every ribbon thickness and ensure a safety and continuous detection.
- ✓ Large range of supply voltage, both DC and AC alimentation.
- ✓ Output «translation» static relay, can be set as Normally Open (NO) or Normally Closed (NC), with LED indication of the selected mode.
- ✓ Output «brake», static relay with LED indication.
- ✓ Obscuration automatic correction.
- ✓ Indication of the obscuration / non-obscuration state and ribbon out of place.
- ✓ Especially recommended in all the condition where there are electrical noises and mechanical physical contacts.
- ✓ Plastic shockproof container filled with resin to ensure mechanical rigidity and complete isolation by external contamination of every type (dust, oil, condense, etc.)

Technical features

Rated Supply Voltage	12 ÷ 30 Vac / Vdc - 50mA
Output	- o Brake: static relay NO - 1A / 30 Vac - Vdc - o Translation: static relay with selectable operating mode NO/NC – see version tables. - o Warning LED for obscuration due to external contamination (dust, oil, etc..)
Ribbon's fluctuation detection	from 2,5/sec to ribbon stopped
Sensor type	Infrared , three axis
Operating range selection	Power-scale
Operating temperature range	0°C ÷ 45°C
Wrap protection class	IP65

Versions:

	Translation Output	
AC / DC	1A	30Vac / Vdc

Available cables : connector M12 / 8 pin, connector AMP Mate-N-Lock or no connector.

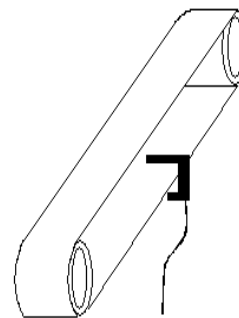
OPERATING DESCRIPTION

FT series Photocell have been designed for the control of the fluctuation of the abrasive ribbons on sanders and calibrating machines.

This control is made through an optical three axis block, that put between the ribbon, makes working the servo-systems (electrovalve) for the continuous translation.

An additional output is used for the action of an optional brake: the machine will stop in the case the ribbon exits from its working place.

This device is provided with a trimmer for the regulation of the operating zone and with a Led output for the indication of a possible dust accumulation on the optical block..



Here following we refer to the Brake Output (white and pink cables) and to the Translation Output (grey and green cables).

Referring to the picture "fig. 1" and to the various operating conditions in pictures fig. 2, 3, 4, 5, the target of the photocell is to control the translation of an oscillating abrasive ribbon, through a continuous detection on the ribbon 's edge.

The lavoration is correctly executed when the ribbon edge moves in alternate and central mode on the element «2» (see fig.3 and fig.4).

The Output for the translation command of the ribbon is not allowed until the ribbon's edge does not obscure the element <2> (fig.3).

Obscured this element, the output is enabled and invert the translation (fig.4).

The state of this Output is indicated by the led (b).

The Output «translation» is available as Normally Open (NO), but is possible to set also the Normally Close mode (NC), connecting the red cable to the blue cable.

Element «1» not covered, fig.2 (example of ribbon out of place).

Element «3» covered, fig.5 (example of ribbon out of place).

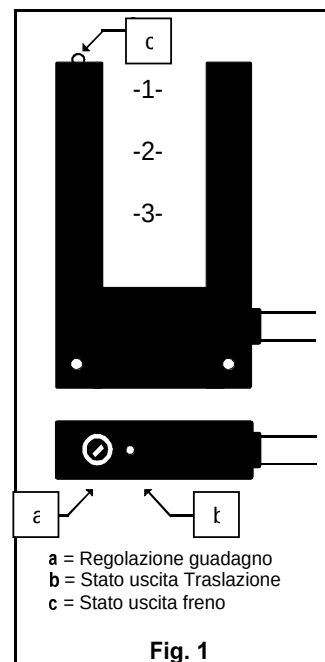
Both of these condition are considered as alarms and will be indicated by the switching-off of the LED (c) of «brake» signalling, with the relative output commutation that can drive an emergency device to stop the ribbon.

The condition of ribbon stopped, is detected by the sensors, so every uncertain reading procedure is eliminated and every extra oscillating action is avoid.

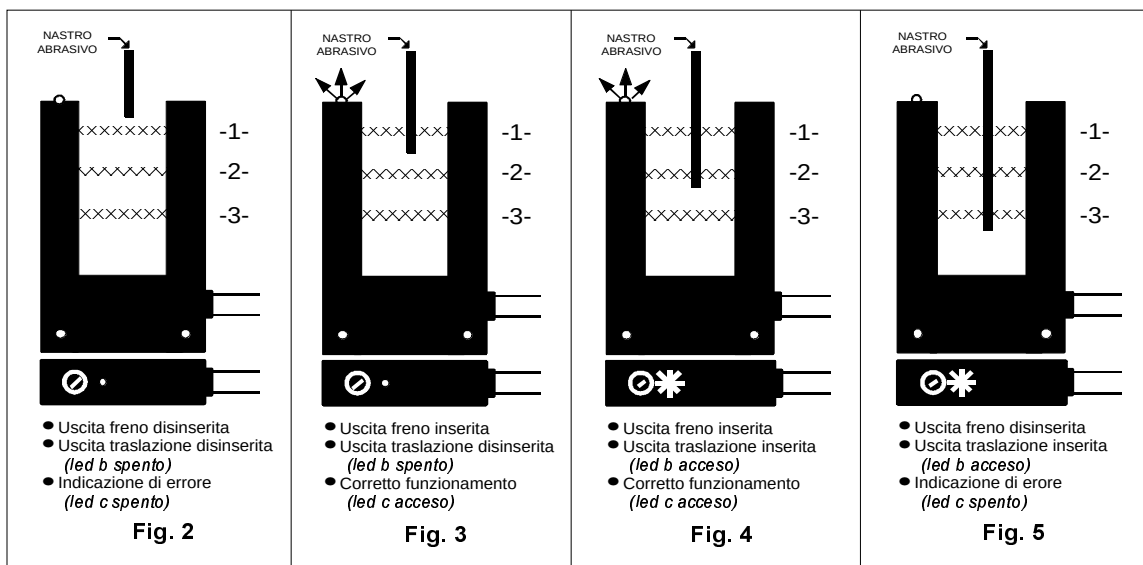
The gain regulation (see «a» in "fig.1") allow the possibility to calibrate in the best way the sensors, so that they can pass through little dust accumulation, but without passing on the other part of the ribbon also in the case of very small thickness of the ribbon.

A correct setting of the device (generally 1/3 of the course), must be done so that the element «1» and «2», detect the obscuration with the specific used ribbon.

All the optical devices automatically modify their operating zone looking at possible dust accumulations, so they will correctly work also after big amount of time.

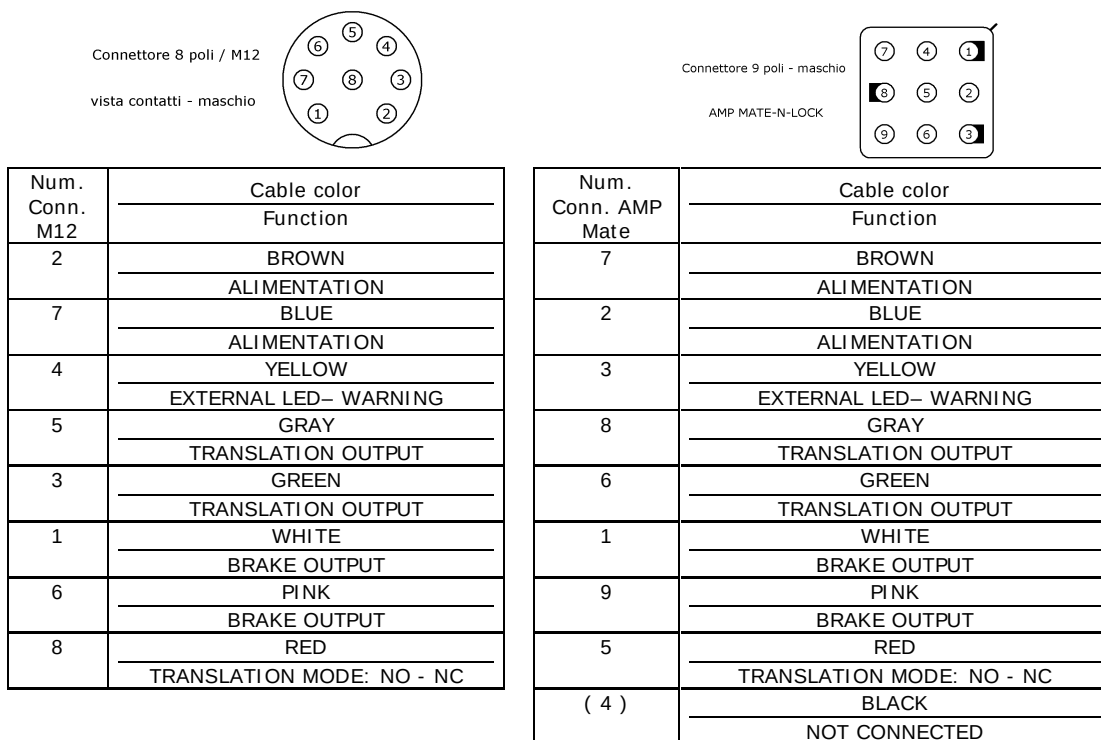


The optional external light, switch on and off when the ribbon obscure or not the element «2»; when the blocks are covered by an excessive amount of dust or lavoration residual this light will be always ON, indicating in this way the necessity of a cleaning operation by the user. This light is of LED type, that must be connected as indicated in the schematics.



Connection schematics

For a correct installation refer to the following tables and drawings (fig.6).



Attention: To substitute a photocell (FTH series) is necessary to check the compatibility with these schematics of connection.

