



Bobbin Sensor

On circular loom, when shuttle bobbin gets empty the missing tape creates wastage in fabric. Some times the loose end of weft gets entangled with warp tapes, and all warp tapes are smashed, resulting in stoppage of loom for considerable time.

We have designed a bobbin sensor, which continuously monitors all the shuttle bobbins, and when any of the bobbins reaches near empty condition, it stops the loom. The bobbin can be changed, thus avoiding fabric and tape wastage. The tape remaining on bobbin is usually very less.

The relay PCB stops the loom by opening the NC contact. The Relay PCB is similar for bobbin and weft sensor. A white LED on sensor helps in setting the sensor. When all the bobbins are detected by sensor, white LED stops flickering and lights up contineously. As the sensing mechanism is based on Infra Red principle, color of shuttle bobbin, tape and texture of empty bobbin may affect the performance of sensor, however sensor will work faithfully on light colored tape and all blackish mild steel bobbins. The sensor needs periodic cleaning of dust.

It is recommended to use fixed type clamp for bobbin sensor to avoid frequent setting due to fabric size changes.



Advantages :

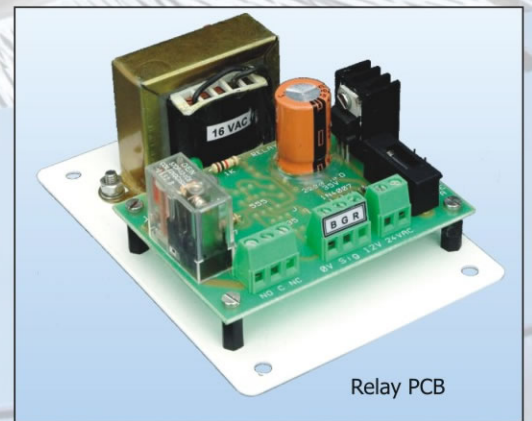
- As the bobbins are changed before they are fully empty, there is no wastage in fabric.
- The wastage of tape on shuttle bobbin is very minimum.
- The shuttle bobbin are never full empty, hence there is no risk of loose weft end smashing warp tapes.
- Like other sensor, our bobbin sensor does not require additional proximity switch.
- The near empty shuttle bobbins need not be loaded on creel, hence creel bobbins can be of full size, reducing the number of loom stoppages.
- One operator can handle multiple looms, as he does not have to monitor the shuttle bobbins constantly.
- The efficiency of loom increases and fabric of ZERO DEFECTS is produced.
- The pay back of the bobbin sensor is fast due to more production, improved quality, less down time of the loom and reduced wastage.

Technical Specifications

Sensor diameter	30mm
Sensor length	88 mm
Sensing distance	150 mm
Type of sensing	Infra Red
Number of shuttle	Four, Six or Eight
Sensor cable length	5.5 meter (8.5 meter optional)
Loom speed	300 - 1200 pick per minute
Relay contact	1NO / 1NC
Supply voltage	24 volt VAC.(240V Optional)
Supply frequency	50 Hz.
Power Required	0.5 watt (2W when relay is ON)
Operating Temperature	50 Degree Centigrade
Weight	2 Kg



Clamp



Relay PCB