HILL ELECTRONICS (P) LTD

E BROCHURE

Hill Electronics (Pvt) LTD, under its trade name Hiltron , sells a wide range of custom built electronic products that will more precisely control your production efforts. Our products include Hiltron's unique series of Weft Sensors, Parallel Pick Insertion Control System and products for wide range of Industrial clients. Hiltron uses the most reliable components and strict quality testing to ensure that every product meets our high standard of excellence.

HILTRON FOCUS ON PARALLEL PICK INSERTION CONTROL SYSTEM , USING HILTRON WEFT SENSORS AND SPECIAL CONTROL SYSTEM AND NECESSARY CABLING.

Our products are used in many leading weaving machines, such as

PICANOL OMNI/OMNI PLUS/ OMNI PLUS 800 / SUMAM

TOYOTA 610/710/810

DORNIER

TSUDAKOMA

ITEMA

SULZER

SULZER – PROJECTILE

RIFFA

DERIX (STEEL WIRE WEAVING-GERMAN)

I WEAVING PRODUCTS

WEFT SENSOR (AIRJET MACHINE) (12V /24V)

We take extra care to make a perfect product for our customers , using most reliable components and strict QA testing , One such product is the Weft Sensor for Air jet weaving machine. We launched this device in the early 2000. Since then we have modified the shape of the sensors to suit the machine and our latest version with **"CE "** Mark is deployed in Industries now

Now Weft Sensors are available in 2 models 12v and 24v . it's a rubbing sensor, which can be installed in any type of Airjet looms . This Airjet sensor can be installed to add with or replace the existing weft sensor that comes along with the machine or can be installed if there is no weft sensor at all in the machine. Hiltron provides specially designed attachments to fix sensors

Hiltron Airjet weft sensors are normally placed between the feeder or accumulator and the stand for cones. The movement of yarn between the above area will be continuously sensed and the yarn breakage is detected . This information is passed on to the Hiltron control system, and gives command to stop the machine for avoiding cloth damage. The 5th generation micro model weft sensor with **" CE "** Marking is ready for both Domestic and International market.

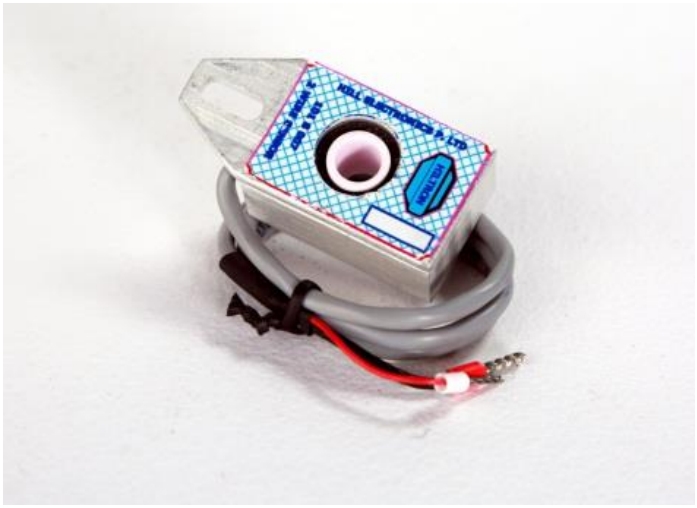
SUPPLY VOLTAGE **9 / 24 Volt DC**

POWER 100mW

WEFT SENSOR (PROJECTILE MACHINE) 2 WIRE

Hiltron 2 wire weft sensor for projectile weaving machine is another Product which is widely used in Sulzer Projectile weaving machine

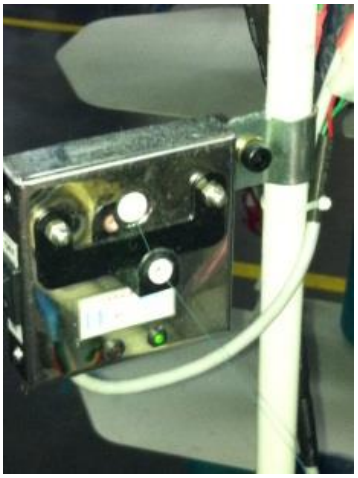
The working is same as that of Airjet weft sensor …identifying the yarn breakage and protects the cloth damage



It is a compact sensor, which contains sensing device and associated two wires only. The electronic control circuits for this sensors are placed in the connected control box (HS-04). In projectile weaving up to 8 yarns can be used in a weft. If any one of the yarn is missing, the control box stops weaving process before completing the weft cycle.

WEFT SENSOR (STEEL WIRE WEAVING MACHINE)

For steel wire weaving machine used for wire mesh Weaving Hiltron designed weft sensors are widely used. It is a purely rubbing sensor , easily identifies the weft breakage and protects the steel wire mesh from damage . In India it is used in German make DERIX machine



OPTICAL WEFT SENSOR (AIRJET RIFFA MACHINE) (24V)

In India lot of Chinese Airjet weaving machine Riffa is being used. Along with machine 2 or 4 pick insertion weft sensor only are inbuilt . So by the request of end users who plan to upgrade more than 4 pick up to 16 pick , Hiltron has developed optical weft sensor for the particular machine

The shape and size of the Optical sensors are designed in a manner to place more sensors in the cone fixing stand. It can smoothly sense yarn in the range of 20 Denier

FD SENSOR (FILLING DETECTOR SENSOR) PICCANOL

Hiltron recently developed Filling Detector Sensor for PICCANOL machine. In one machine usually 2FD SENSORs are present: FD-1 and FD-2, to check the perfect insertion of weft yarn.

FD SENSOR (FILLING DETECTOR SENSOR) DORNIER

Hiltron Filling Detector sensors for the Dornier machine are used for Weft filling yarn detection

CONTROL SYSTEM FOR PARALLEL PICK INSERTION UP TO 16 PICK AIRJET WEAVING MACHINE

The specially designed control unit for Airjet looms is the result of years of R &D . In Most of the weaving machines it have the facility to run single pick insertion . In certain cases for the weaving of special designs multi pick insertion is required ,but most machines will not have a inbuilt –in unit for special designs, So additional weft sensors for the detection of yarn and a control system for the operation are needed for multi pick weaving…by the repeated request from Indian weavers, Hiltron designed the **“ PARALLEL PICK INSERTION CONTROL SYSTEM “**

Our control system consists of both weft sensors and parallel pick control unit. Our control unit have the facility to run 1 to 16 pick insertion, that means the machine will support 32 weft sensors at a time . Any pattern and design of weaving can be controlled by Hiltron control system

Hiltron control system consists of weft sensors , control unit and necessary cable system. The information received by the yarn sensors is passed on to control unit through specially designed cables , to perform perfect insertion system . Hiltron control unit is a "**fully isolated system "** with a 230 V input for Indian users . So there is no interference with the machine inbuilt software .Control unit deffer from machine to machine.

CONTROL UNIT

16 PICK INSERTION

16 YARNS INSERTION IN ONE FEEDER

The above pictures shows the parallel pick insertion features

CONTROL SYSTEM FOR PARALLEL PICK INSERTION UP TO 8 PICK (SULZER PROJECTILE MACHINE)

Control system for Sulzer Projectile Machine is same as that of Airjet . The difference is that Sulzer machine supports almost up to 8 pick insertion, so the control unit is designed accordingly. Eight weft sensors through cable System are connected to the control unit and it controls the machine operation in 8 pick insertion

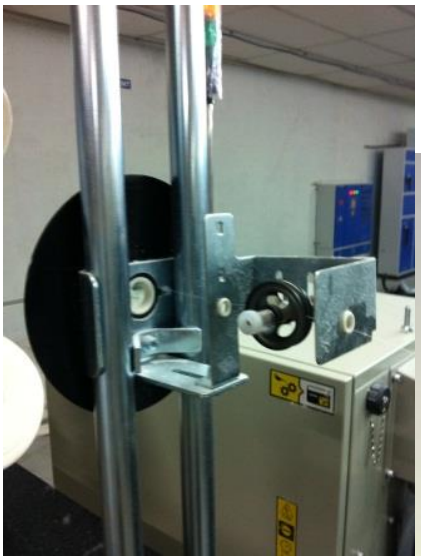
WEAVING PRODUCTS ACCESSORIES

CABLE SET WITH CONNECTORS FOR WEFT SENSORS IN WEAVING MACHINE

. Hiltron's specially designed higher end cable control system attaches the control unit and weft sensors. Information received from weft sensors are carried through the cable controls to the control unit. Specially designed connectors are used to connect the cables to weft sensors and control unit .A Weft indication lamp is usually placed together with the cabling system for indicating the weft breakage

YARN TENSIONERS

Hiltron provides yarn tensioners , in special cases. For giving proper tension for the yarn while insertion behind the feeder . Mostly it is used in the case of more than 4 pick insertion. It's a custom built item



BALLOON BREAKER

Baloon breaker is fixed , in front of the weft sensor to avoid ballooning of yarn . it provides additional tension also while yarn insertion

BALOON BREAKER FIXED ON WEFT SENSOR

Mesh meter-H2

Hiltron mesh counting meter is used for accurate measuring of steel yarns in the manufacturaing of wire mesh

Hill Electronics developed WIRE MESH METER – H2 can display the length of woven wire mesh in meters, and stops the machine when the preset length is reached. The weaver need to first enter the mesh size and the target length. An NPN proximity sensor is attached to this meter to count the number of weft wire insertion cycle. When the required length is woven, the meter will stops the machine through the 'NO' relay contact. The user can enter the mesh size range from 0.01 to 9999.99 and the target length from 0.01 to 9999.99(in meters).When the preset length is reached the meter will stops the machine by shorting 'NO' relay switch

I FOR WINDING, SPINNING, TWISTING

1. ELECTRONIC DIGITAL PRESET COUNTERS (8 Models)

For Sewing thread winding machines application, the mechanical preset counter meters were first replaced with electronic one in India first by Hill Electronics. We have 40 years of experience with this product, supplying to all divisions of **MADURA COATS** . This is mainly used for counting the length in meters of yarn by sewing thread manufacturers. We can set the required length of the finished spool. When the winding reaches the preset length, the meter will stop the winding motor. Different types of counter meters are manufactured according to the customers requirement This meter is used along with our NPN proximity and relay box.

SUPPLY VOLTAGE 12V DC

OUTPUT VOLTAGE + 12V

SENSORExternal, NPN, 0-3mm range

PULSE RATIO Settable

DISPLAY 5 digit, 7-segment, 0.5 inch

COUNT RANGE 0 to 99999

MOUNTING SLOT DISTANCE 110 mm to 130mm

STARTER BOX SWITCHES START, INCH, STOP(optional)

2.POWR SUPPLY & RELAY BOX for PRESET COUNTER

This power supply provides 12 Volt DC power to all the meters connected to it. Each preset meter can turn ON and OFF corresponding 3-phase relay in it, thus controls the winding motor.

3.PROXIMITY SWITCH

Proximity switch is used to provide pulse signal to the counter meter in each winding cycle. It is actually a metal detector sensor with range of 3mm.

4. IR SENSOR

Hiltron Infra-red sensors are developed for detection of yarn using optical method. This optical sensor is very effectively used in spinning and cone winding industries. The shape and size of the particular sensors may vary as per user requirements.

5. TWISTING SENSOR-3TR

Yarn twisting sensor is mainly used in rope manufacturing Industries. The twist sensor 3TR is used to detect the missing of any one of the yarn passing through it, in a 3:1 twist system. This sensor actually senses the rubbing speed of the yarn passing through its ceramic tube. The sensor goes to active state only if all the three yarns smoothly rub through ceramic tube at least for one second, then red LED becomes off. In active state, if any one of the yarn is missing it pulls the solenoid to stop the corresponding spindle. Then the red LED starts blinking to indicate the idle state of that spindle.

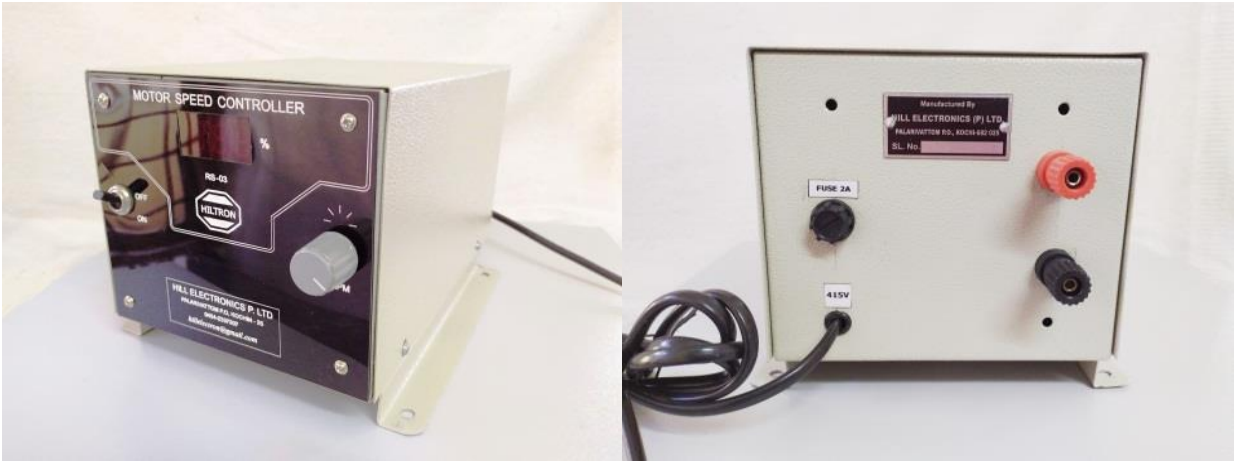
Specifications

- Power supply for twist sensor : +12 DC, transformer type
- Power supply for solenoid : +24 DC, SMPS type
- Solenoid pulling time : 1.5 sec
- Yarn missing to solenoid activation time interval : 800 ms(max)

6.CONE SPINNING CONTROLLER

This device is used in cone spinning machine to detect the missing of any one yarn. When a missing occurs, it activates a mechanical cutter to cut out all other yarns. Hiltron IR sensor is used to detect the yarn.

7 DC MOTOR SPEED CONTROLLER



It is PWM based DC controller, which is mainly used for the speed control of wiper motor used in the starching process of the yarn.

8 LEAN MANUFACTURING CONTROL SYSTEM

HILTRON HAB-V1

It is a connected device that can capture status of manufacturing machines. This data is processed by the remote server to calculate the production efficiency.

Manufacturers are using Lean manufacturing principles to eliminate waste, optimize processes, cut costs, and boost innovation in a volatile market. Under the lean manufacturing system, seven wastes are identified: overproduction, inventory, motion, defects, over-processing, waiting, and transport.

Hopefully, this will give you a better understanding of lean manufacturing and why it's such a popular and widely used philosophy in today's marketplace.

III. CONTROL PRODUCTS

1. NEON FLASHER & CHASER

This product is used to illuminating the display boards of Shops, Hotels etc.

2. LED CHASER & DIMMER

We have wide variety of LED controllers including RGB controller, multichannel chaser (48+), LED dimmer. The user can control the speed and select the pattern.

3. POWER LAUNDRY CONTROLLER

Hiltron power laundry controller is used to control the forward and reverse rotation of the laundry motor. This device can also be attached to Hiltron Timer to set the desired washing time. Available for both single phase and 3 phase motors.

4. PRESET DIGITAL TIMER

Hiltron preset timer is used to generate time delay. User can set up to 99 minutes/seconds delay. NC relay output.

5. LABELING MACHINE CONTROLLER.

It consists of power supply and timing circuits required for the synchronized operation of the labeling and auto cone feeding

6. GSM Mobile Based Remote Monitoring (PSMS)

PSMS is developed for Asianet cable networks. It captures electrical parameters of the UPS used in cable network. It has the facility send SMS to the operator when any type electrical fault occurs . Also it can send reply SMS showing the electrical parameters.

7. R-core Transformers

R-core Transformers are manufactured using unique rectangular cores with round cross section known as R-cores. The special feature of this transformer is that the core has no gaps and is continuous.

The other unique feature of R-cores is the use of Bobbins in two parts. The winding is done on special round bobbins on two parallel legs of the core. This ensures complete isolation between the two windings and satisfies safety standards. In comparison with EI Transformers of same capacity, the R-core transformer is compact (nearly 40% smaller) and has a low temperature elevation. Leakage flux of the R-core transformer is about 1/10th of conventional transformers which permits the equipment manufacturer to place the transformer close to critical electronic components. The balanced winding & low flux leakage ensures low noise of the transformers. This makes R-Core transformers suitable for use in noise sensitive equipments.

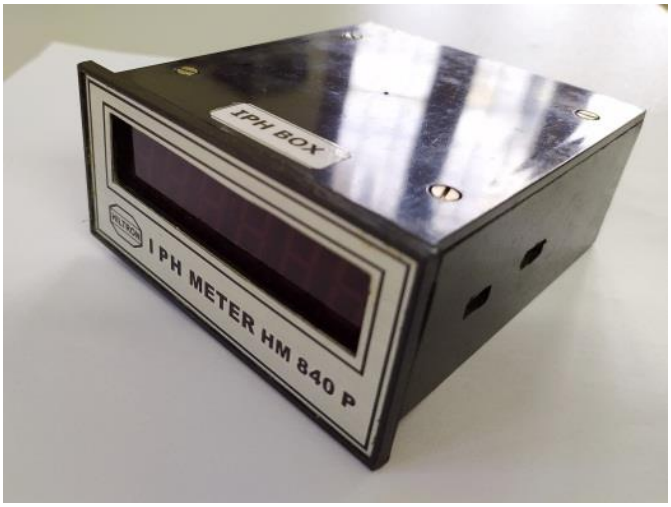
8. Custom Based Copper Winding

We have facility to do custom coil winding such as Ring type, Faraday Modulator etc.

9. DC Solenoid Coil

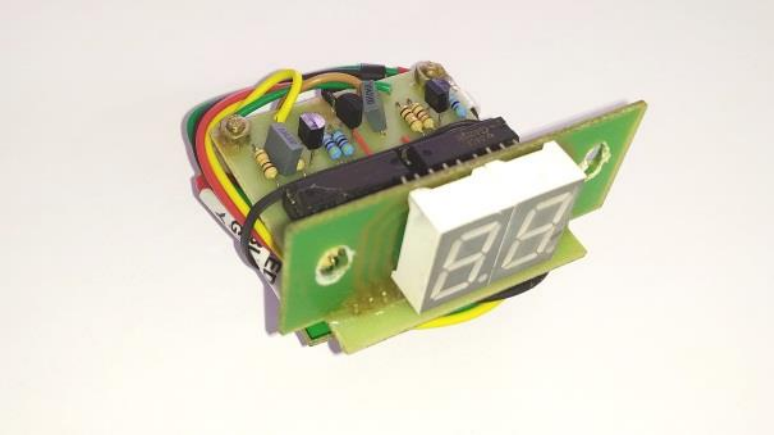
DC 12 V Solenoid electromagnet, 10mm, open frame type, linear motion, plunger spring return type. Applications include motor breaking system, auto door lock etc.

10. Digital Speed Display (Printing Machinery) HMT



Used to monitor the hourly production in printing machine, with 5 digit display.

11. Tool Display Module (Printing Machinery)HMT



It is a break board that contains 2 digit display and 5V regulator, used to display production count.

12. Traffic Light Controller System

Hiltron traffic control system is popular in India. Its silent features include,

Intelligent signal control for junctions up to 5 roads.

Auto and manual control

Inbuilt timer for turn ON blinking in night time.

Can be remotely control.

Prerecorded traffic rule announcement.

13. SEQUENTIAL SWITCH FOR SOUND SYSTEM

Sequential Switch is used in public addressing / Audio systems , to protect the speaker from Power ON Spikes, . It sequentially controls the Power On timings of MIXER , DSP , MONITOR and AMPLIFIERS . Power OFF timings are just opposite to that of Power ON timings

Visit our website for more details: www.hiltron.in

INDIAN OFFICE

HILL ELECTRONICS PVT LIMITED

35/1842, SOUTH JANATHA ROAD , PALARIVATTOM P.O , KOCHI – 682 025

KERALA – INDIA , PH: 0484-4878791 , 9447204500

US OFFICE

6841 Virginia Pkwy , Ste 103 , McKinney , Texas -75071

Email

hillelectron@gmail.com (Indian operations)

corporate@hiltron.in (Global operations)

joseph.kannam@hiltron.in

bose.kochikunnel@hiltron.in

sijo.augustine@hiltron.in

Abraham.james@hiltron.in