













# **ABOUT US**

#### Gilard Philosophy

Gilard's organisational structure & working stems from its philosophy which is perfectly summed by our founder's words, "Lesser the number of uncertainties, Greater the chances of Success."

In keeping with this belief, Gilard has a wide organisational base under one roof, which includes: Design & Development - Tool Room - Moulding Shop - Press Shop - Automats Shops - Electroplating - Assemblies - Quality Assurance & Marketing for better control on **Quality, Cost & Delivery.** 

"Gilard is a one stop Shop for Customers looking for Highly Complex & Customised Products."





"I have always laid the utmost importance on the two constant beliefs in my life - Honest Dealings in Business and the highest quality of my products. My principles hold a much higher priority for me than a transitory profit. That's how Gilard has been doing its business for the **past five decades**."

HESelhi

HS SETHI (MD, Gilard)

#### Development keeps us moving...

#### **MILESTONES**

#### Quality Keeps us Ahead...





1961 - Started in Kota (Rajasthan) as Gilard Radio Corporation, a partnership concern, manufacturing Valve Sockets for Radios

1970 - Started manufacturing Electronic Components and Renamed as Gilard Electronics

**1975** - Registered as Gilard Electronics Pvt. Ltd.

1985 - Shifted plant from Kota (Rajasthan) to Mohali (Punjab) Chandigarh

1995 - Certified for ISO 9001

2000 - Certified for QS 9000

2004 - Certified for ISO / TS 16949

2006 - Certified for ISO 14001 and OHSAS 18001

2011 - Formation of Gilard's CSR Team EHSAS

2015 - Launch of Gilard's IT wing - Gilard Application Programmers

is registered as a Company.





**MILESTONES** 

**APQP** 

**PRODUCT DESIGN** 

**TOOL DESIGN** 

**INJECTION MOULDING** 

**STAMPING** 

**PLATING** 

**PRECISION TURNING** 

**ASSEMBLY** 

**SPECIAL PROCESSES** 

**TESTING & VALIDATION** 









# **CUSTOMERS**





































# **CUSTOMERS**













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**CSR** 

FRP















Subr@s

WABCO - TVS (INDIA) Limited

VIII TrelleborgVibracoustic



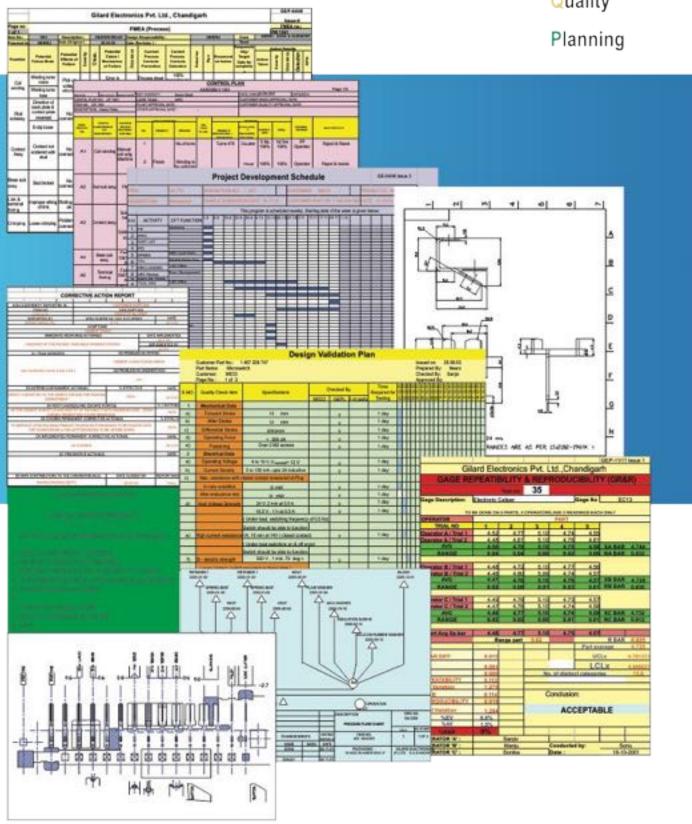


**APQP** 

Advanced

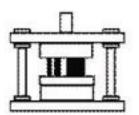
Product

Quality



# Designing and Developing products as per your

specifications...



**APQP** 

We can design, develop and mass produce components for you, all under our single roof.

We are a Full Service Provider to many of our customers wherein we make the moulds and tools and then use them to Supply components and products to them.

Our cost of development is low, our speed of development is fast and our Quality standards are high.

We have a 'New Product Development (NPD)' department which uses APQP techniques to in-build Quality in the Product right from conception.

**FMEAs** are conducted to identify high **RPNs** and key characteristics. Control Plans are made and reviewed to minimize any potential chance of failure.

**NPD** is supported by a strong **CAD** office which uses modern softwares to draft and design the components, Assemblies, Moulds and Other tools.

The tools and moulds are manufactured in our Tool Room which is equipped with sophisticated machines like **CNC** Wirecut, **EDMs**, Milling and Grinding machines.

Process Capability studies are conducted to validate the processes.

Customer complaints and other Corrective Actions are handled effectively using 8-D.

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**ASSEMBLY** 

SPECIAL PROCESSES

**TESTING & VALIDATION** 

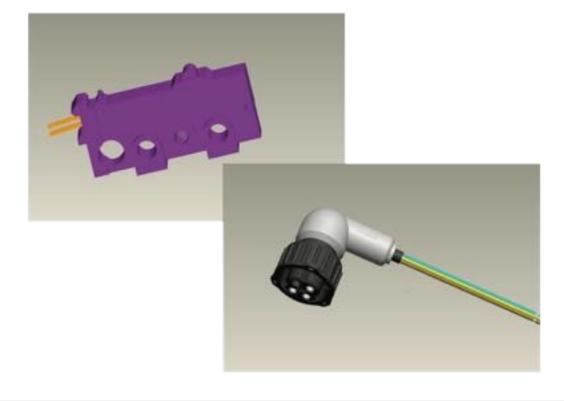
**CSR** 

FRE

At a lower cost...

At a faster pace...

Still exceeding your Quality expectations





# **PRODUCT DESIGN**

Starting with drawings and specifications or with samples and specifications or just samples, we can design the sub-parts, select the correct material, define the dimensions and tolerances and identify the process of manufacturing them. We do designing for both Product and Tool.

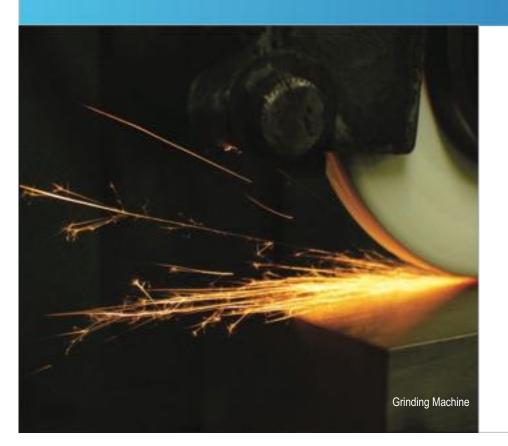
The **Design Department** uses modern 2D and 3D modeling softwares like Auto CAD and Pro-Engineer to draft and design components, assemblies, moulds (injection and compression), progressive press tools and other fixtures.

The **Tool Room** is equipped with modern machines like CNC Machining Centre, Wire Cuts, EDMs, Millings and Grinders etc to make tools, moulds, jigs and fixtures for most Stamping as well as Moulding processes. They also perform preventive maintenance for the tools.





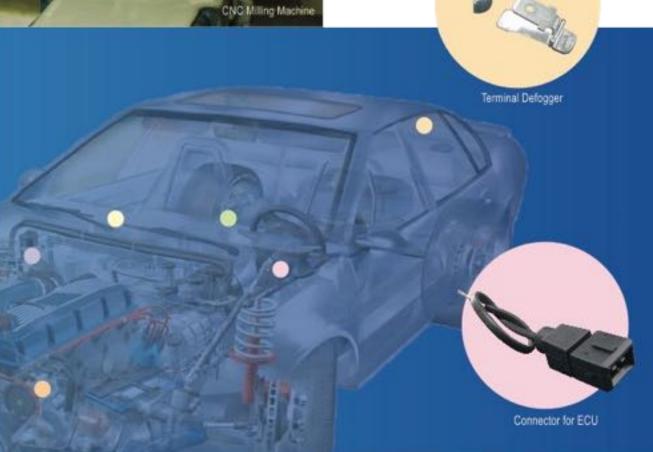






Field & Regulator Moulding for Alternators

# **TOOL DESIGN**



APQP

**PRODUCT DESIGN** 

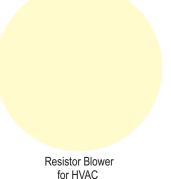
**TOOL DESIGN** 

STAMPING

SPECIAL PROCESSES



Cable for Fuel Pump











Gilard has facilities for Injection Moulding of Thermoplastics as well as Thermosetting Material. Besides these, Gilard also does Compression, Rubber and Insert Mouldings. The machine capacities range from 30 to 150 tons. Different Injection Engineering Plastics like Nylons, Polyesters, Acetals, Polycarbonates, ABS, PP, PPO, PPS and elastomers are processed.

Gilard is equipped with fully automatic computer controlled machines including 9 Thermoplastic Horizontal Machines, 3 Vertical Injection Moulding Machines, 2 Horizontal Thermoset Injection Machines, 6 Compression Moulding Machines & Vertical Thermoset Injection Machine.



# **STAMPING**

Gilard uses **high speed power presses (upto 600 spm)** and medium speed presses with **progressive tools** for making stamped parts. The machine capacities range from 10 to 63 tonnes. Most of the presses are fitted with feeders and decoilers. Different materials like CRCA, GI, Copper, Phosphor Bronze, Beryllium Copper, Stainless Steel, etc are processed.

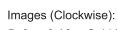


Gilard has an in-house Plating Shop which has lines for Gold, Silver, Tin, Nickel, Copper and Zinc Platings. While most of the lines are semi automatic, the silver line is fully automatic. Gilard is an environment conscious company and takes care that all platings are ROHS compliant. Gilard also has an Effluent Treatment Plant in place to treat the effluent.

# **PLATING**







- · Before & After Gold Plating of Tags.
- · Chemical testing of Plating Baths.





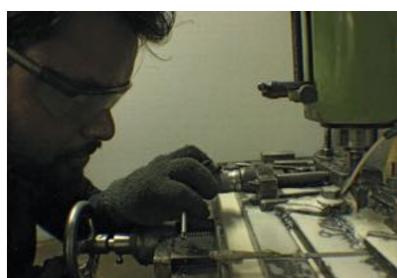
# **PRECISION TURNING**

Precision turned and machined parts are made in Gilard's Auto Machine Shop. Special springs and coils are also manufactured in this shop. This particular production shop with highly skilled workforce is equipped with Lathes, Traubs, Tapping Machines, Drilling Machines, Grinders and Coiling Machines.





Traub Machine



Milling Machine

Gilard is an equal opportunity provider and that is obvious when one walks into the assembly shop which is run by a sea of women workforce. Gilard has flexible lines for different products and dedicated Assembly lines for Specific Customers. The Lines are scientifically designed to yield optimum productivity and produce defect free products using Poka Yoke. Single piece flow on line testing ensures high quality standards.

# **ASSEMBLY**



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**CSR** 

ERP



Assembly Line



On Line Inspection



# **SPECIAL PROCESSES**

Gilard is equipped with Special Purpose Machines to perform certain special processes required for customised product requirements for the customers. These include processes like Printing, Spot Welding, Dip Soldering, Hand Soldering, Winding, Heat Shrinking, Cementing, Potting, Wire Cutting and Paint Fill.

#### Winding

using high speed automatic machine capable of winding wire as fine as 0.06mm ()

#### **Potting**

Using 2 part epoxies & PU for sealing & waterproofing the assembly.

#### **Spot Welding**

3 Phase 25 KVA spot welding machines to spot weld two metals together using Tungsten/Copper electrodes

#### **Soldering**

temperature displayed soldering Stations in place where ever required.





#### Pictures (Clockwise):

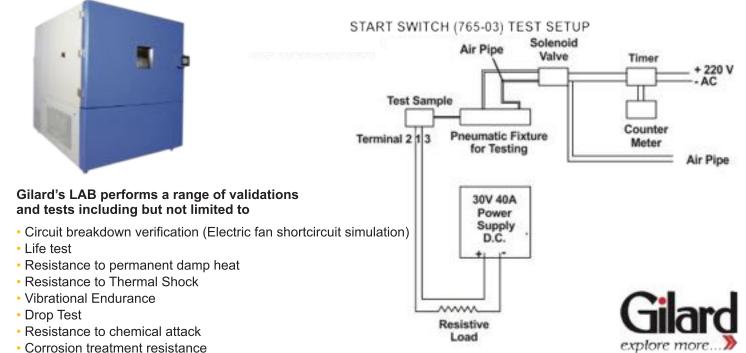
- · Before and after Potting picture of Wiper Motor Assembly.
- Before and after Heat Shrinking picture of Terminal.
- · Operator working on Winding machine



Gilard has a fully equipped LAB to perform validation tests on new products and periodic life endurance tests on regular products. It has a climatic chamber from -40 to 200 degrees Celsius and Special Purpose Machines (SPMs) for conducting life testing on switches. LAB is also involved in the regular calibration of instruments like Vernier Calliper, Micrometer, Micro Ohm Meter, Weighing Machines, Voltmeter, Ammeter and CR Testers. Gilard's LAB also has the capability to perform Water spray test and salt spray test.

#### **TESTING & VALIDATION**





**CSR** 

From its inception in 2011, Environment, Health, Safety and Society, have been at the core of EHSAS's scope of work. Although not a legal obligation for Gilard, the company's team EHSAS works towards the betterment of the immediate society. And therein lies the difference in the approach because their actions originate from the heart. Providing equal opportunities to women & specially disabled persons, sensitizing Gilardians & their families towards environmental concerns, Walkathons to spread socially relevant messages, holding Blood Donation Camps & Blood Platelet Donors for cancer patients are some of the endeavours taken up by EHSAS. Under "Swachha Bharat Abhiyan" Gilardians clean the neighbourhood & educate young school kids on personal hygiene & saving of water, paper & power.





"In the end, it is never just about running a business, sales growth or profitability. The true measure of a company is not just what it does for shareholders and clients, but how well it addresses the needs of its employees and the immediate society."

H.S. Sethi (Founder, Gilard).

#### **CSR of Gilard**

Creating Shared values: **Profit with social benefits**. This shared value can save the world from economic, social and environmental collapse!

The concept of 3Ps-People, Planet and Profits is being widely discussed in business scenarios. Gilard's management feels strongly that even small scale industries are capable of contributing to the immediate society. A company may spend lesser money but put in more effort, concern and strategy for contributing towards: PEOPLE & PLANET. The business should generate profits, people should gain from it and the planet should not be harmed by its actions.

Besides taking responsibility for our actions and making our business fully accountable we make efforts to pay back to the society.

We have the power of choice but a sustainable life means taking social responsibility.



### We assure you of better CONTROLS

Better Production Planning to ensure better Deliveries

**Better Material Planning** 

to ensure No Production Hold-ups

**Better Process Control** 

to ensure better and consistent Quality

Better cost Control

to ensure a better price / value.



We provide you real time status on INVENTORIES, SCHEDULES, DELIVERIES, LOGISTICS, ACCOUNTINGS etc. We take better control on Design and Development Activities. We seamlessly manage all ENGINEERING CHANGES. We CONTINUOUSLY IMPROVE in different areas based on our Internal Metrics as well as Customer feedback. We have over 100 Performance Indicators to guide us. We handle Customer Complaints and the following Corrective and Preventive Action better. We train and develop our Associates better.

GAP ERP'
Enabled

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**CSR** 

**ERP** 

#### We do the same ...

#### Just a lot Better ...

We do all this with GAP ERP + ... An ERP and BMS software that we have installed and commissioned in our Company. This software has been developed and customized over a period of 29 years and controls almost everything for us.

#### **STAY IN CONTROL**







COMBINATION SWITCH

COMBINATION SWITCH



# **PRODUCT RANGE**

ROUT US

**JII ESTONES** 

CUSTOMERS

APQP

PRODUCT DESIGN

TOOL DESIGN & DEV.

INJECTION MOULDING

STAMPING

**PLATIN** 

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ERP

**PRODUCTS** 













# **RESISTORS**



4 Speed Resistor (Scorpio)



4 Speed Plate Type Resistor Blower (Swift)



4 Speed Resistor (Indica & Scorpio)



**4 Speed Resistor Blower** (Tata Indica, Maruti Versa, Sumo Face Lift Reva Electric Car)



4 Speed Resistor Blower (Tata Indica Vista)



4 Speed Resistor Blower (Mahindra XYLO)



3 Speed Resistor Blower with Thermal Fuse (Tata Nano)



4 Speed Resistor Blower (GM)



4 Speed Resistor Blower with Cage & Solder Type Fuse (Maruti Estilo)



**3 Speed Resistor Blower** (For Commercial Vehicles)



Radiator Resistor ( Mahindra S101 & Tata)



Radiator Resistor (Mahindra TUV)

# COMPONENTS - STARTERS & ALTERNATORS



Field Moulding ( ACE Start Stop- Tata)



Field Moulding ( Tata Cummins ltd.)



Field Moulding ( Maruti Wagon-R)



Field Moulding ( Tata Narrow Cab VECV Truck)



Regulator Moulding ( VECV Truck)



Regulator Moulding ( Tata Narrow Cab & Sumo Gold)



Regulator Moulding (Maruti)



**Brush Box Moulding** 



Plug Moulding (IRIS Magic BS4- M & M)



# SWITCHES FOR LCV



Neutral saftey Switch (NC Type)
Rating : 24V DC, 0.5 Amp
Operation : Push to Off



Switch Stop Lamp
Rating : 12V DC, 8 Amp
Operation : Push to Off



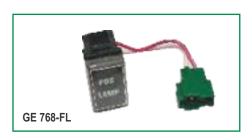
Switch Accelerator
Rating: 10V DC, 3 Amp
Operation: Push to On



Switch Exhaust Brake
Rating : 12V DC, 3 Amp
Operation : Rocker Type



Switch Room Warmer
Rating : 12V DC, 0.5 Amp
Operation : Push to On
Push to Off



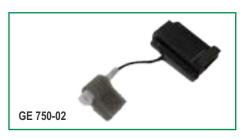
Switch Fog Lamp
Rating : 12V DC, 10 Amp
Operation : Rocker Type



Switch Roof Lamp
Rating : 12V DC, 5 Amp
Operation : Push to On
Push to Off



DIFF Switch
Rating : 12V DC, 0.5 Amp
Operation : Push to On
Push to Off



Door Switch
Rating : 12V DC, 2 Amp
Operation : Side to On



Push-Pull Switch
Rating : 12V DC, 3 Amp
Operation : Pull to On
: Push to Off



CNG Switch
Rating : 12V DC
Operation : Push to On



Switch Lamp Door
Rating : 14V DC, 2 Amp
Operation : Push to Off

# **SWITCHES FOR TRACTORS**



Start Switch

Rating : 12V DC, 30 Amp Operation : Rocker Type Termination: Lug Type



Starter Switch with Key Rating: 12V DC, 30 Amp



Start Switch Rating: 12V DC, 15 Amp



**Light Switch** 

: 12V DC, 10 Amp Rating Operation : Rotary Termination : Screw Type



Clutch Safety Switch

: 12V DC, 10 Amp Rating Operation: Push to Off



Stop Light Switch

: 12V DC, 10 Amp Rating Operation : Toggle (Push to Off)



Brake Light Switch 60 HP Model

: 12V DC, 10 Amp Rating Operation: Push to Off



Brake Light Switch

: 12V DC, 10 Amp

Termination: Clip on



Hazard Switch (Toggle Type)

Rating : 12V DC, 11 Amp

Operation : Toggle

Salient Features: One input/Two outputs



Horn Push Button

Termination : Clip on & Screw Type Salient Features: Protective rubber cap

provided



**Neutral Switch** 

Rating : 16V DC, 5 Amp Termination: Wire Insertion Type



#### **Indicator Switch**

Rating : 12V DC, 10 Amp

Operation : Toggle

Termination: Wire Insertion Type



# **BLOWER SWITCH SERIES**



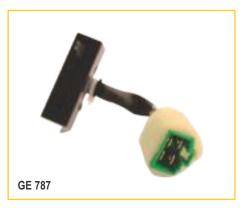
3 Speed Blower Switch(12/24V)



3 Speed Blower Switch(12/24V) with Plate



**Control Panel Assembly** 



Slider Switch 4 Position 3 Speed



4 Speed Blower Switch(12/24V)



3 Speed Blower Switch(12/24V)



Rotary Switch 4 Position 3 Speed



Rear Control Panel with Rotary & A/C Switch



3 Speed Blower Switch(12/24V) with Big Plate

# **WIRE ASSEMBLIES**



Fuel Injector connector with Gold Plated Terminals



**Connector Cable** for Diesel Fuel Pumps



**Sensor Extension Cable** 



Wiper Cover Assembly



3 Core Cable



3 Core Coil with Terminal Assembly



Innova Bakelite Terminal



Pick Up Assembly



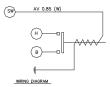
Overmelded Winding Assymbly



#### COLD START SET UP FOR DIESEL VEHICLES



#### **Heater Relay**



SENSOR IN THE ENGINE

Rating: 12V DC, Permissible current 200 Amp Special Features:

- Mounting pitch- 46mm.
- Coupler arrangement with flexible wire.
- Bright zinc plating to prevent corrosion.



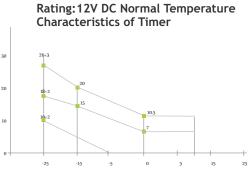
Air Heater

Rating: 11V, 130 Amp Special Features:

- Mounting pitch- 85 x 85.11mm holes.
- Body made of pressure die casted Aluminium.
- Connection through copper stranded PVC wire.



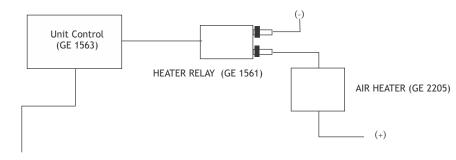
Unit Control





Populated PCB of Unit Control

#### **COLD START SET UP FOR DIESEL VEHICLES**



Unit Control (GE 1563) senses the temperature using a sensor and the internal circuit decides the time duration of the heating to be provided to the engine. Triple timers energise the Heater Relay (GE 1561) which in turn power the Air Heater (GE 2205) for the required duration to start the engine

# **FLASHER & SOLENOID**



Solenoid Valve
Rating : 12V DC

Air leakage: 0.5 l max/min at On & Off



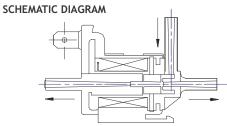
Flasher

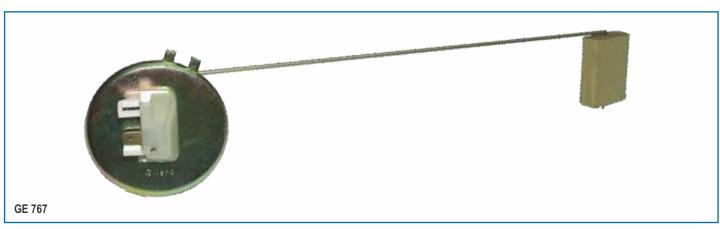
Rating : 12V DC Flash Rate : 70 c/m



**Unit Flasher** 

Rating : 12V DC Flash Rate : 90 c/m Starting Time : 1.5 max





Float Assembly

Rating : 12V DC Type : Resistance

Material of Float: Polyurethane foam

#### Resistance Standard

Float Position	Resistance	Fuel in liters in falling level
Empty	110 + 7 ohms	5.5 - 8.5
Half	32.5 + 4 ohms	20.5 - 23.5
Full	3 + 2 ohms	39.5 - 42.5



# **PLUGS & CONNECTORS**



3 Pin Socket Rating: 240V AC, 6 Amp



3 Pin Plug Rating: 240V AC, 15 Amp



**3 Pin Socket for Export** Rating: 240V AC, 15 Amp



Connector
Rating : 250V AC, 10 Amp
Insulation Resistance: 10M ohm at
500V DC



Outlet DUP 5.20 Black
Rating: 125V AC, 20 Amp
Insulation Resistance: >100M ohm at
500V DC



Quick Connect Type
Rating: 250V AC, 10 Amp
Insulation Resistance: 10M ohm at
500V DC



**Brass Connector** 2-8 way round Connectors Rating: 5 Amp



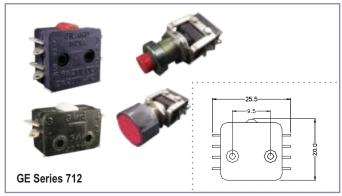
STANDARD COMBINATIONS: PLUG PROVIDED WITH CLIPS FOR CHASSIS MOUNTING & SOCKET WITH COVER BUT WITHOUT ACCESSORIES.
REVERSE FITTING: PLUG WITH COVER & SOCKET WITH CLIPS FOR CHASSIS MOUNTING.



INSULATION RESISTANCE: 1000M OHMS(MIN)
RATING: 250V AC, 5 Amp
VOLTAGE WITHSTANDING:
1KV (FOR SERIES 9000)
2.5KV(FOR SERIES EXCEPT 9102)
1.5KV (FOR 9102)



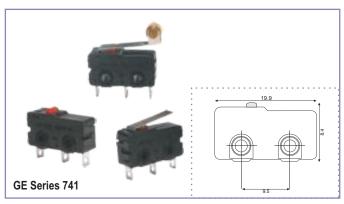
# MCRO SWITCHES



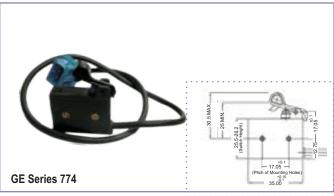
Contact Rating : 230V AC, 2 Amp

Contact Resistance: 30m ohm (max) for Gold Plating

20m ohm (max) for Silver Plating



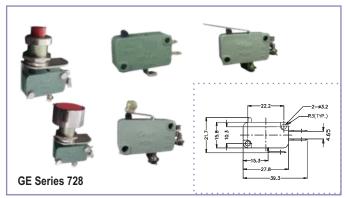
Contact Rating : 230V AC, 3 Amp. Contact Resistance : 10m ohm (max)



#### **Electrical Specifications:**

Operating Force : ≤ 300 N

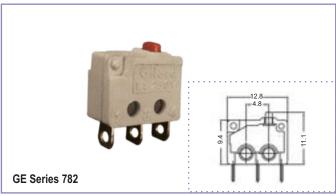
Endurance /Life Test : 5,000,000 Cycles
Operating Voltage : 6-15 Volts
Dielectric Strength : ≥ 500 Volts



Contact Rating : 230V AC, 10 Amp Contact Resistance : 10m ohm (max)



Contact Rating : 230V AC, 15 Amp Contact Resistance : 10m ohm (max)



#### **Electrical Specifications:**

Operating Force : 1.96N or less
Endurance /Life Test : 50,000 Cycles
Operating Voltage : 12V DC, 1 Amp
Insulation Resistance : 1M ohm at 500V DC



# **TOGGLE SWITCHES**



M12 Bushing

Rating : 230V AC, 4.5 Amp
Contact Resistance : 20m ohm (max)
Insulation Resistance: 100M ohm (min)



M12 Bushing

Rating : 230V AC,10 Amp Contact Resistance : 10m ohm (max) Insulation Resistance : 1000M ohm (min)



M12 Bushing

Rating : 230V AC, 20 Amp Contact Resistance : 10m ohm (max) Insulation Resistance : 1000M ohm (min)



M12 Bushing

Rating : 230V AC, 6 Amp Contact Resistance : 10m ohm (max) Insulation Resistance : 1000M ohm (min)



M12 Bushing

Rating : 230V AC,15 Amp
Contact Resistance : 10m ohm (max)
Insulation Resistance : 1000M ohm (min)



M6 Bushing

Rating : 230V AC, 3 Amp Contact Resistance : 10m ohm (max) Insulation Resistance : 1000M ohm (min)



#### MISC. SHEET METALS/ MOULDINGS



Inter Leaf



Defogger Terminal Nexon (Tata)



Defogger Terminal



Terminal Condensor (Subros)



Stay Plate Radiator Motor (Focustek)



**Terminal Block** 



**Nut Plate** 



Plate



**Holder Door Glass** 





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# Gilard Electronics Pvt.Ltd.









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