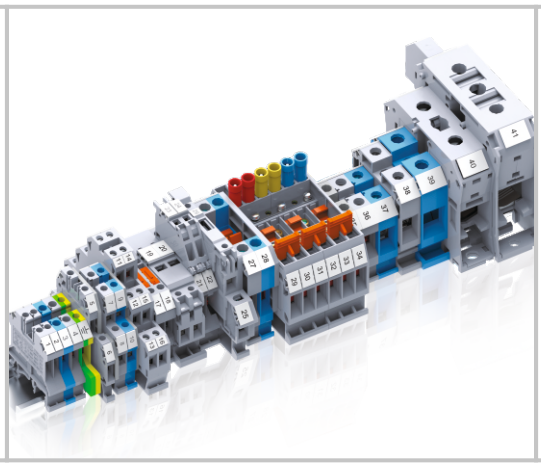
connectwell

THE RIGHT CONNECTION



PRODUCT OVERVIEW 2019-20

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INTRODUCTION

Established in 1978, Connectwell is the leading manufacturer of Terminal Blocks in India. This superior range of Terminal Blocks is complimented by a large range of Interface Modules, Surge Protection Devices and SMPS (Switched-Mode Power Supplies).

Connectwell over the years has undergone constant evolution of infrastructure, systems and personnel. This evolution is exemplified by its high quality products and a team of professionals which is always looking ahead of everyday challenges, willing to change adapt and create.

Reputed product approvals and certifications like UL, CSA, VDE, ATEX and CE and quality systems which adhere to ISO 9001:2015 verify the quality level that can be expected of Connectwell.

More than four decades of incessant dedication and commitment have made Connectwell a synonym for

. . . THE RIGHT CONNECTION

PRODUCT LINES

Terminal Blocks

Interface Modules

SMPS (Switch-Mode Power Supplies)

VISION

Connectwell is committed to provide safe, reliable and efficient control & connection solutions in line with ever changing technology requirements. We shall...

Empower domestic and global customers with products of the highest quality standards, with a competitive edge and at superior service levels.

Create a work culture that encourages individual growth, team spirit and creativity; helping us overcome challenges and attain goals.

Deploy fair & ethical business practices for the growth of our vendors and maximize returns to our stakeholders.

Contribute towards the welfare of our community and follow environment friendly practices.

MISSION

Connectwell is dedicated to achieve customer satisfaction by, supplying the Right Product, at the Right Time and at the Right Cost.

QUALITY & SYSTEMS

At Connectwell we endeavour to keep evolving our systems in line with the latest standards and technology.

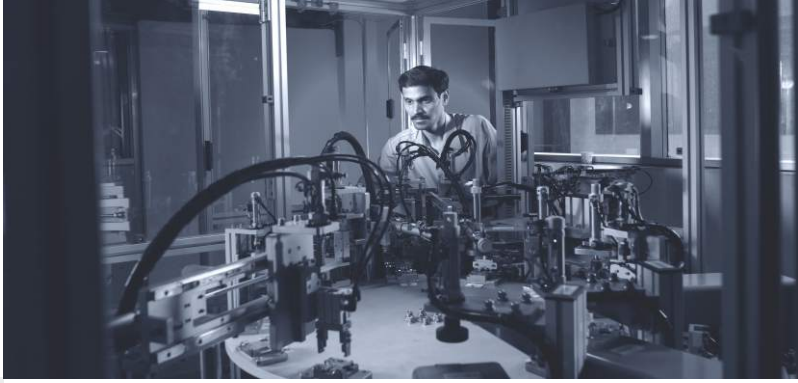
In addition to being an ISO 9001:2015 certified organization, all our business processes are mapped into various internal and customer facing IT systems, ranging from a world class ERP, CRM & PLM systems to extremely user friendly customer portal, product configurators and product website.

Our quality control laboratory has been approved for 'Witness Test Data Program' by Underwriters Laboratories (UL). This ensures that the quality testing carried out by our laboratory is not only accurate but also acceptable to the most stringent third party product testing organizations.

Connectwell products carry third part approvals from the most trusted organizations in the world, including but not being limited to UL, CSA, VDE, ATEX and CE.

INFRASTRUCTURE

From product conceptualization to realization, we are well equipped with the latest software and high precision machinery to meet the requirements of our customers. Some of these strengths are listed below



Injection and Compression Moulding: Highly automated production floors with CNC moulding machines supported by high accuracy moulding auxiliaries ensures repeatable high quality production.

Sheet Metal Processing - Our strength in sheet metal processing lies in the ability to use high speed multi station and multi form presses to create complex metal components with a very high degree of accuracy. We also have the capability to carry out a number of post forming processes like tapping, welding etc.

Automatic Mechanical Assembly: A very large volume of our products are assembled automatically on automatic assembly lines, which also carry out 100% functional testing of these products, assuring quality and reliability.

Tool Development & Maintenance: At our state of the art production tool room we produce both sheet metal tools and plastic processing moulds at extremely high accuracy levels. In addition, a maintenance tool room supports production areas and ensures continuity of production.

Product Design & Development: Our team works on a Product Life cycle Management platform which enables easy use of various mechanical and electrical design and simulation tools in addition to being able to efficiently manage projects and engineering data.

This ensures that we are able to produce high quality products and tools in shorter time frames, allowing us to better service our customer's needs.

PRESENCE

Our customers range from the largest to the smallest entities in the below industries

| Power Generation, Transmission & Utilities |

| Oil & Gas | Industrial & Process Automation |

| HVAC | Elevators & Escalators |

| Material handling | Railways & Metros |

| Ship Building & Aviation |

REACH

We serve our customers through an expansive dealer network spread across India & the globe and also through our direct offices.

In India, we have more than 150 distributors located across all major towns & cities. In addition to our distributor network, our Sales & Marketing personnel located in all major cities of India interact with customers directly, to understand and meet their requirements.

Internationally, Connectwell is present directly in China, Brazil & Middle East through its subsidiaries and personnel. In addition we reach more than 60 other countries through distributors.

Some of the reputed names who we work with regularly are listed below

| Siemens | Emerson | Indian Railways | Honeywell |

| Crompton Greaves | Rockwell Automation | ABB |

| Schneider Electric | Bharat Heavy Electrical Limited |

| Larsern & Toubro |

Classic CTS Series
Screw Clamp Terminal Blocks

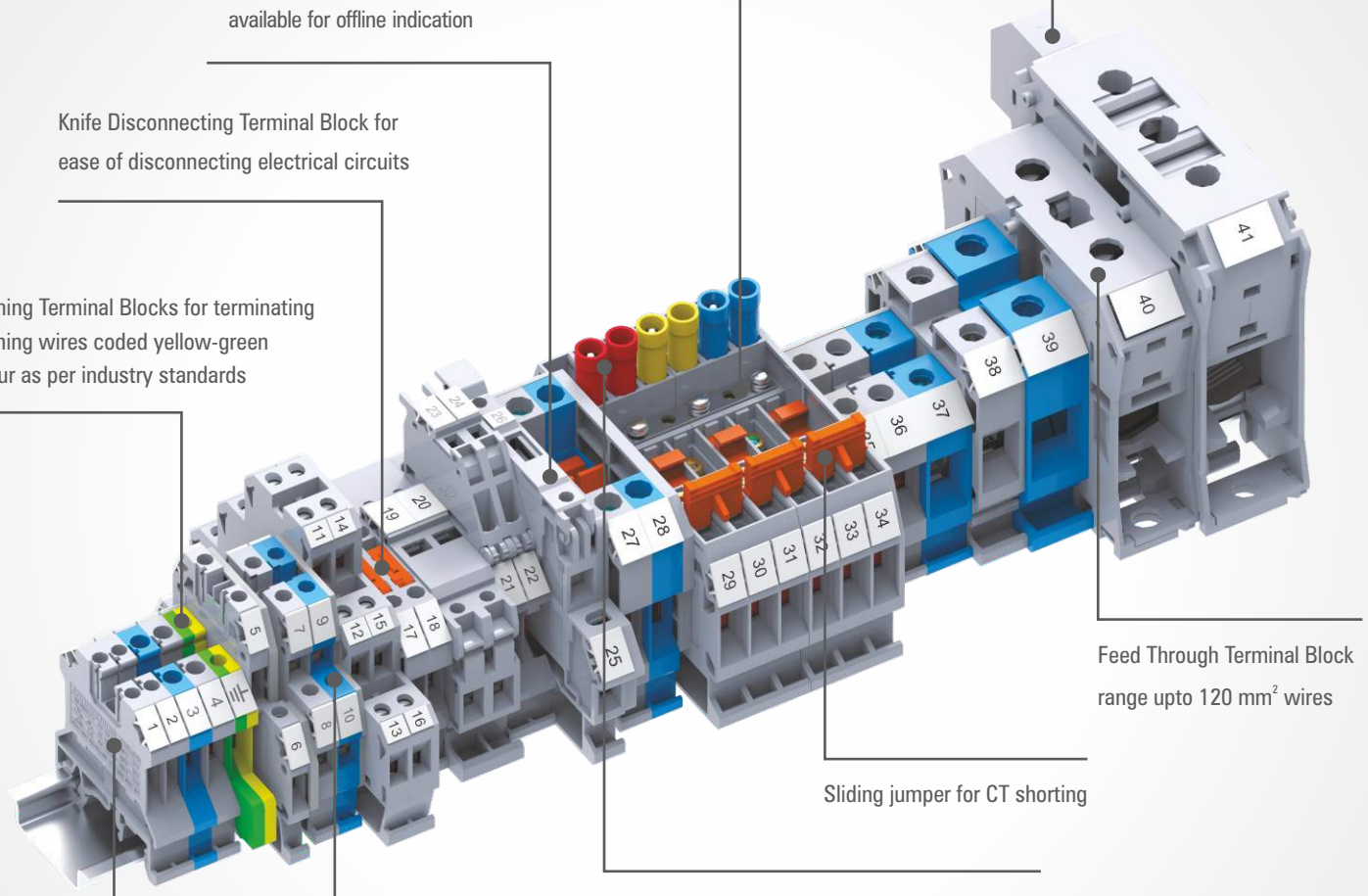
Auxiliary Terminal Block for providing extra connection point for indicator or contractor application.

Sliding type Disconnecting Terminal Block for current transformers & power meters

- Fuse Terminal Blocks in 8 mm and 6 mm pitch
- Universal voltage rating of 6-60 V & 110-240 V available for offline indication

Knife Disconnecting Terminal Block for ease of disconnecting electrical circuits

Earthing Terminal Blocks for terminating earthing wires coded yellow-green colour as per industry standards



Feed Through Terminal Block range upto 120 mm^2 wires

Sliding jumper for CT shorting

Coloured test sockets for insertion of Test Probes

2 Level and 3 Level Terminal Block for high density wiring application

Feed Through Terminal Block for connecting wires as small as 0.2 mm^2

Feed Through Terminal Blocks are the most versatile terminals for Control, Automation, Instrumentation and Power Distribution applications.

The terminals with ATEX & IECEx approval can be used in potentially explosive atmosphere.

2 & 3 level Terminal Blocks are ideal for use in applications requiring high density wiring. Triple level Terminal Blocks are also an ideal choice for control systems where sensor and actuator applications are involved.

Different variants such as Disconnect Terminal blocks, Fuse Terminal Blocks, Din15 mountable and panel mount Terminal Blocks are available for varied industrial applications.

CHV series is specially designed for extremely high voltage (1500 VDC) applications.

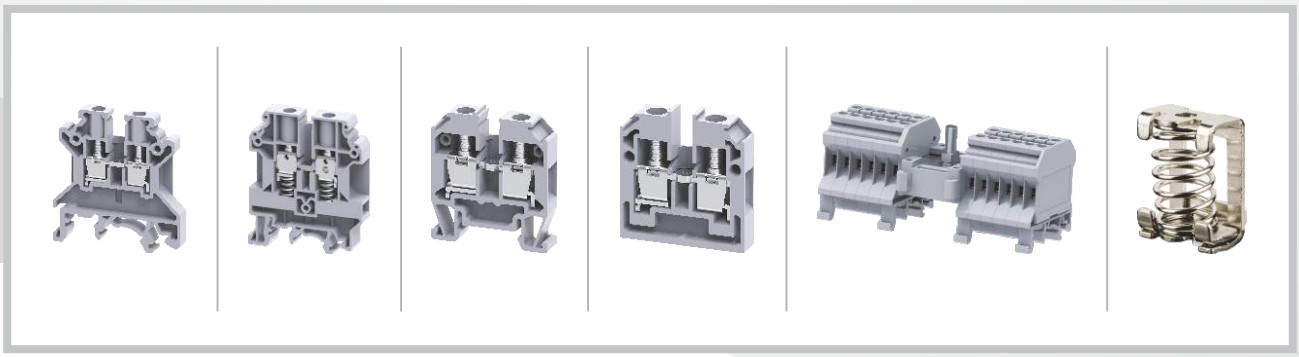
Technical Details :	
Wire Size	0.2 - 120 mm^2 / 22 - 250 KCMIL
Voltage	1000 V
Current	Upto 269 A
Torque	0.4 - 6 Nm / 4.5 - 90 lb.In
Standards	IEC60947, UL1059, CSA22.2-158, IEC 60079-7
Approvals	
Rated Impulse Voltage	4 - 8 KV

Features:

- Safe Wiring
- Connection Reliability
- High pull-out forces
- Compact size
- Flexible & Rigid conductor can be connected with or without ferrule

Product Range:

Standard Feed Through | Multiple Connection | Multiple Level | Ground / Earth Neutral / Earth Clamps | Shield Connection Clamps | Fuse Terminal | Distribution Blocks | High Voltage | Spring Loaded | Micro & Panel Mount | Disconnect & Test



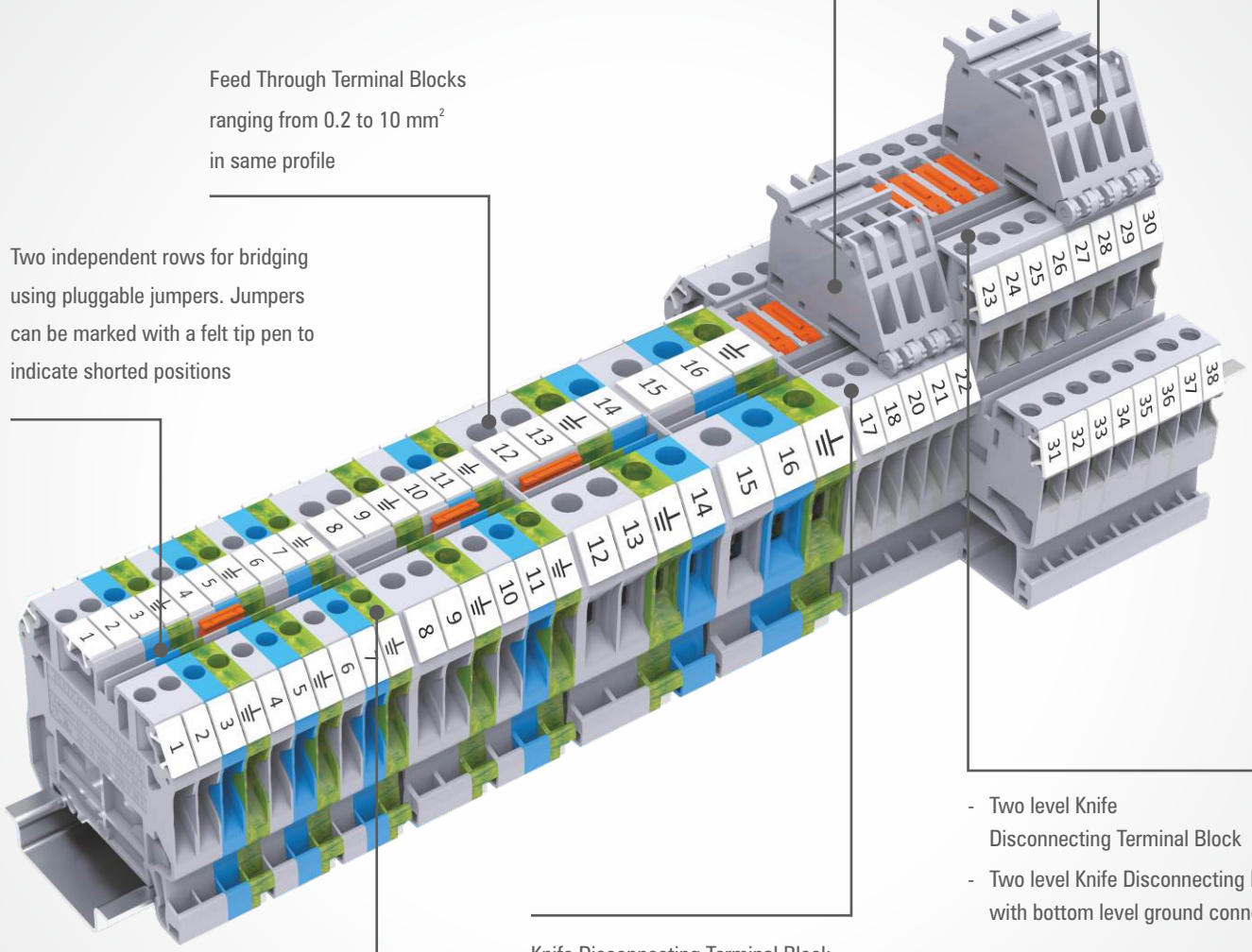
High Performance CY Series
Screw Clamp Terminal Blocks

- Two level Fuse Terminal Block
- Two level Fuse Terminal Block with bottom level Ground connection

Fuse Terminal Block suitable for 5 x 20 mm glass fuse, also available with fuse fail indication

Feed Through Terminal Blocks ranging from 0.2 to 10 mm^2 in same profile

Two independent rows for bridging using pluggable jumpers. Jumpers can be marked with a felt tip pen to indicate shorted positions



- Two level Knife Disconnecting Terminal Block
- Two level Knife Disconnecting Block with bottom level ground connection

Knife Disconnecting Terminal Block for ease of disconnecting electrical circuits

Earthing Terminal Blocks for terminating earthing wires coded yellow-green colour as per industry standards

A high torque clamping system on the screw clamp Terminal Blocks ensures safe, gas tight connections, while cold forged, rolled threaded screws ensure highly reliable connections.

Standard feed through terminals are of the same dimension with difference in thickness and a 3 position marking system.

The possibility of using 2 independent rows for bridging enables the creation of various circuit combinations such as Feed through Terminal Blocks can be simultaneously shorted in an alternating configuration with fuse & Disconnecting Terminal Blocks.

Universal voltage rating of 6 - 60 V & 110 - 240V is available on Fuse Terminal Blocks with offline indication. Both AC & DC circuits can be connected without any polarization requirement.

The knife disconnect terminal system enables isolation of circuits. A standard test plug can be used with these Terminal Blocks. Double level Terminal Blocks are an ideal choice for space saving applications.

Technical Details :	
Wire Size	0.2 - 10 mm^2 / 24 - 6 AWG
Voltage	1000 V
Current	Upto 57 A
Torque	0.4 - 1.2 Nm / 4.5 - 14 lb.in
Standards	IEC60947, UL1059, CSA22.2-158
Approvals	
Rated Impulse Voltage	6 - 8 KV

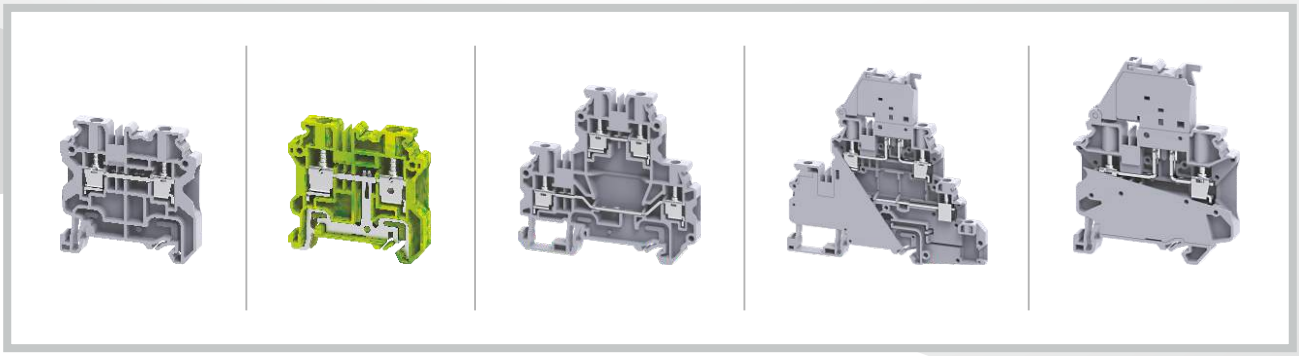
Features:

- > High pull-out forces
- > Compact size
- > Push-In jumpers

Product Range:

| Feed Through | Ground Earth | Multiple connections |

| Multiple Level | Fuse Terminal | Disconnect & Test |



CP Series PUSH-IN
Terminal Blocks

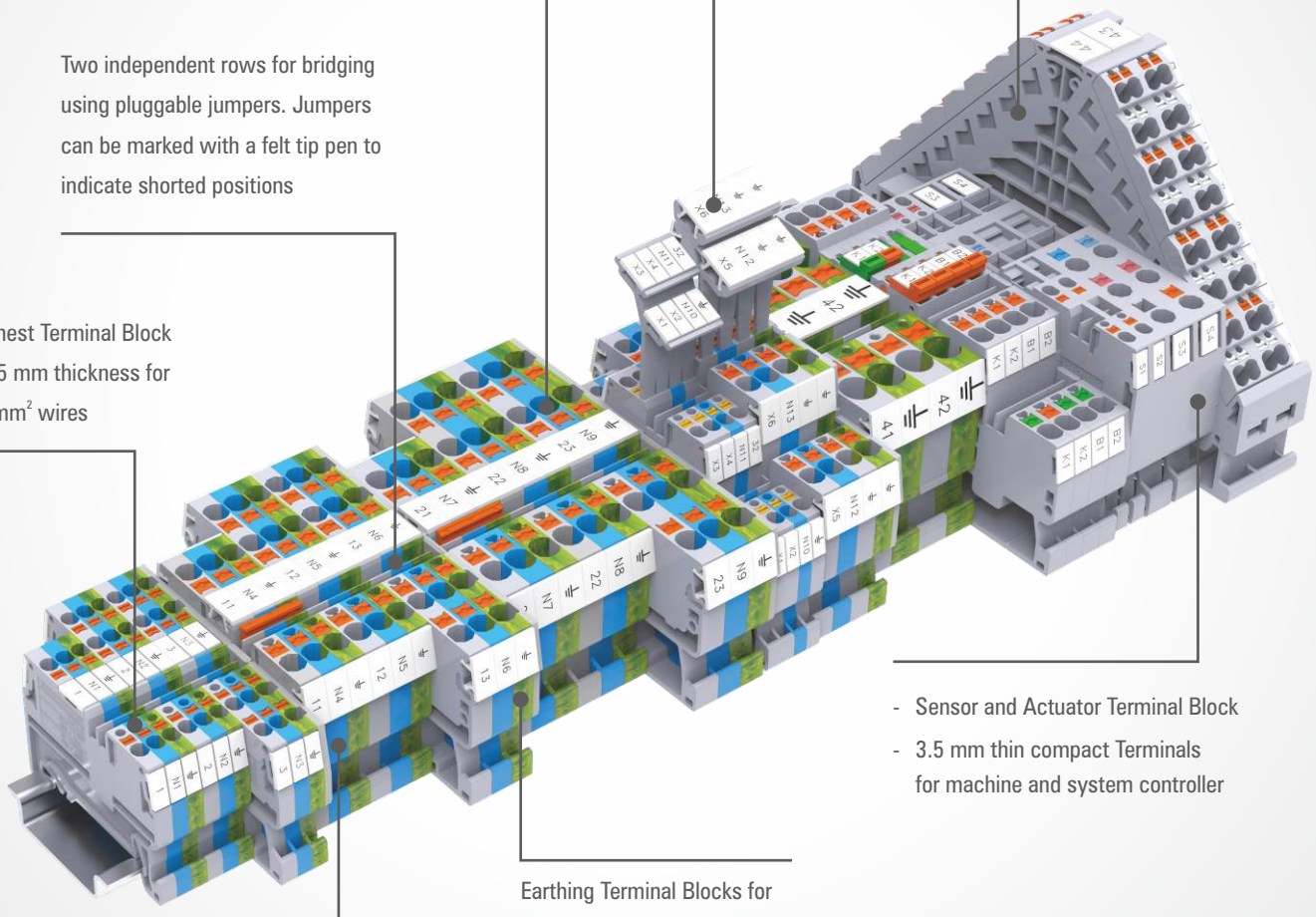
Raised group marker
for better visibility
& identification

8 Level Marshalling
Terminal Block

Multiple Connection to eliminate
reliability problems

Two independent rows for bridging
using pluggable jumpers. Jumpers
can be marked with a felt tip pen to
indicate shorted positions

Thinnest Terminal Block
in 3.5 mm thickness for
1.5 mm^2 wires



- Sensor and Actuator Terminal Block
- 3.5 mm thin compact Terminals
  for machine and system controller

Earthing Terminal Blocks for
terminating earthing wires
coded yellow-green colour
as per industry standards

Feed Through Terminal Block

CP series Push-In Terminal Blocks have a specialized connection system that enables tool less wire connections. Reliable, vibration resistant, gas tight connections are made with in built high quality stainless steel Push-In spring clamps.

Solid wires and wires with crimped lugs / ferrules are simply pushed into the connection point. No special tools or screwdrivers are required for making such connections. The connection spring is actuated with minimum insertion force.

Standardized pluggable jumpers for shorting Terminal Blocks are now available in various pole configurations.

The possibility of using 2 independent rows for jumpering enables the creation of various circuit combinations. Jumpers can be marked with a felt tip pen on the recess provided on top, to clearly indicate shorted positions.

Technical Details :	
Wire Size	0.2 - 10 mm^2 / 24 - 8 AWG
Voltage	1000 V
Current	Upto 57 A
Standards	IEC60947, UL1059, CSA22.2-158
Approvals	
Rated Impulse Voltage	4 - 8 KV

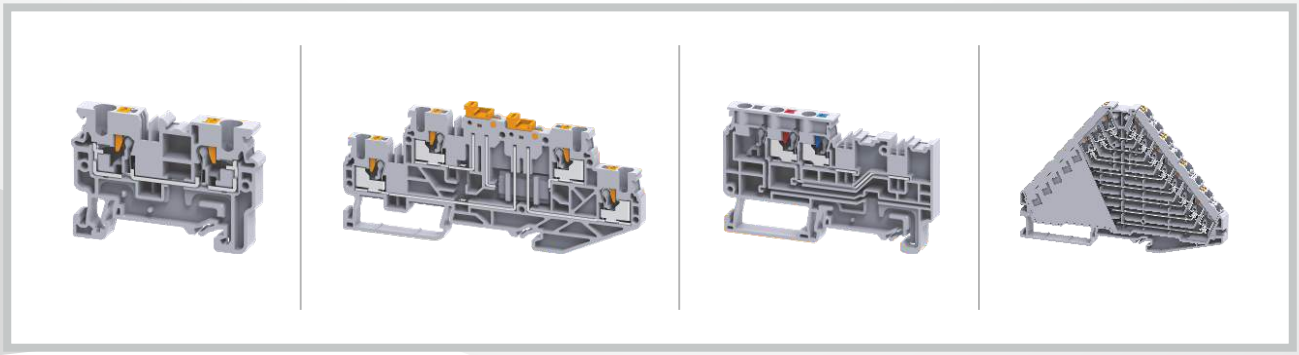
Features:

- > Tool Free Wiring
- > Save 75% of wiring time
- > High pull-out forces
- > Compact size
- > Push-In jumpers

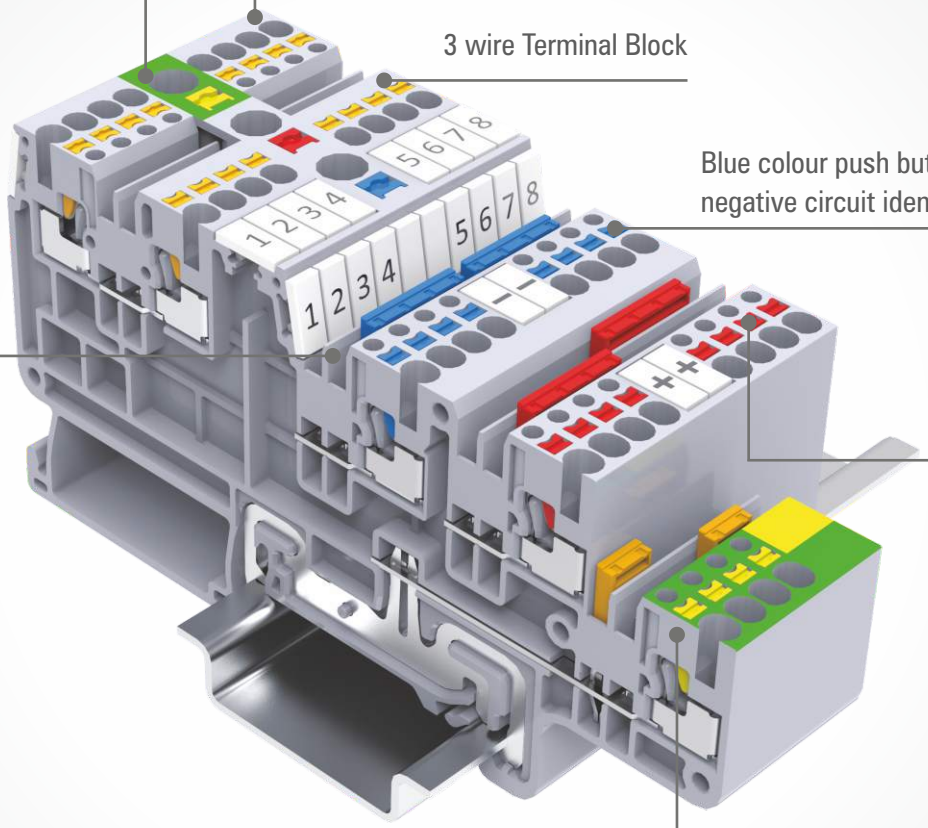
Product Range:

| Feed Through | Multiple connections | Ground Earth | Double Level |

| Multiple Level | Distribution | Sensor & Actuator | Marshalling |



SENSOR & ACTUATOR
Terminal Blocks



Sensors and actuator Terminal Blocks are ideal for wiring modern machine control systems. These Terminal Blocks are extremely compact with a terminal thickness of 3.5 mm.

CPST1.5/3 is a 3 wire sensor Terminal Block. These terminals can be bridged together with a power feed through terminal CPPT2.5/3 by using standard pluggable jumpers.

CPST1.5/4 is a 4 wire sensor Terminal Block which can be used in conjunction with CPPTG2.5/4 power feed through terminal.

In CPSTG1.5/4 an additional grounding point is available and is colour coded green yellow for clear identification.

CPPT2.5/3 is used to bring in the power connection for 3 wire sensor terminals CPST1.5/3.

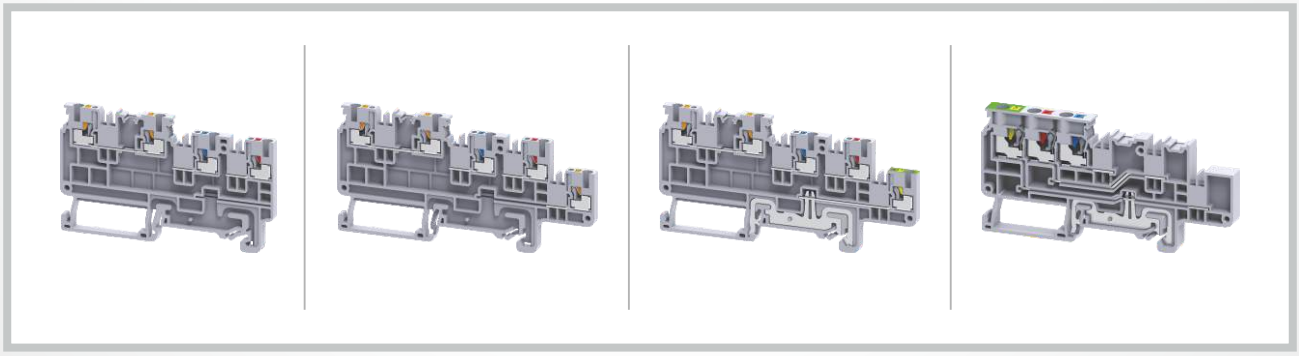
CPPTG2.5/4 is used for 4 wire sensor terminals CPST1.5/4 & CPSTG1.5/4.

Blue & Red colour jumpers are available for clear circuit identification.

Technical Details :	
Wire Size	0.2 - 2.5 mm^2 / 24 - 14 AWG
Voltage	300 V
Current	Upto 20 A
Standards	IEC60947, UL1059,
Approvals	CE
Rated Impulse Voltage	4 KV

Features:

- Compact size in 3 mm thickness
- High pull-out forces
- Push-In Jumpers
- Online indication with LED version

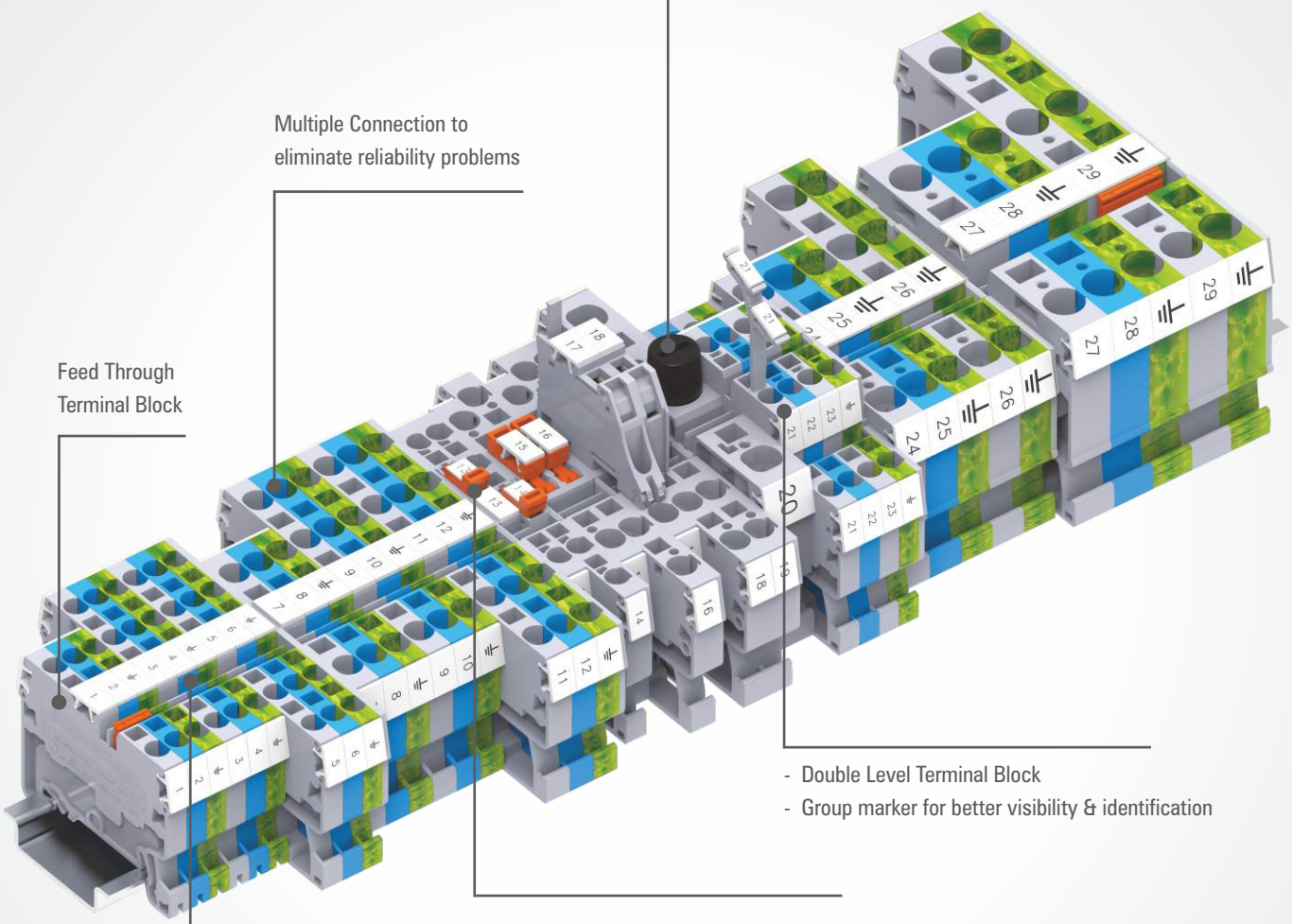


CX Series Spring Clamp
Terminal Blocks

Vertical Fuse Terminal Block with screw cap suitable for glass fuses of size 5 x 20, 5 x 25 & 6 x 32 mm

Multiple Connection to eliminate reliability problems

Feed Through Terminal Block



- Double Level Terminal Block
- Group marker for better visibility & identification

- Knife Disconnecting Terminal Block
- Labeling on the knife contact for easy identification

Two independent rows for bridging using pluggable jumpers. Jumpers can be marked with a felt tip pen to indicate shorted positions

CX series Terminal Blocks have an extremely compact design. These Terminal Blocks can be used in smaller control cabinets and enclosures. High quality stainless steel spring clamps provides a gas tight connection. A vibration proof, anti-loosening wire connection is achieved with this pre-stressed spring clamp system.

2 & 3 level Terminal Blocks are ideal for use in applications requiring high density wiring. Triple level Terminal Blocks are an ideal choice for control systems where sensor and actuator applications are involved. Jumpers can be marked with a felt tip pen on the recess provided on top, to clearly indicate shorted positions.

Different variants such as Disconnect Terminal blocks, Fuse Terminal Blocks, Din15 mountable and panel mount Terminal Blocks are available for varied industrial applications.

Technical Details :	
Wire Size	0.2 - 16 mm^2 / 24 - 4 AWG
Voltage	1000 V
Current	Upto 76 A
Standards	IEC60947, UL1059, CSA22.2-158, IEC 60079-7
Approvals	
Rated Impulse Voltage	4 - 8 KV

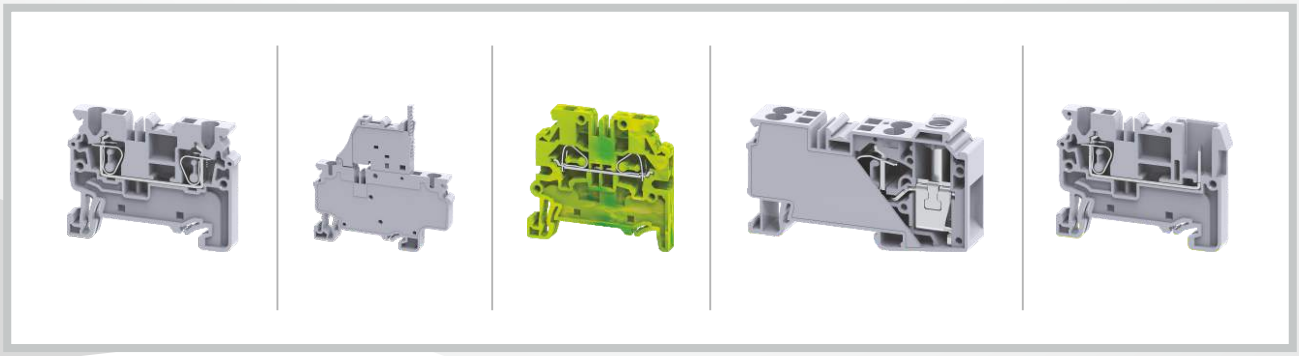
Features:

- > Save 40% of wiring time
- > High pull-out forces
- > Compact size
- > Push-In jumpers

Product Range:

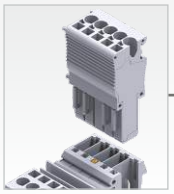
| Feed Through | Multiple connections | Ground Earth | Double Level |

| Multiple Level | Side Entry | Hybrid Distribution | Pluggable Terminals |

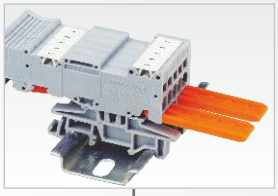


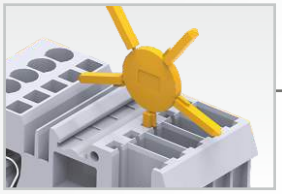
PLUGGABLE Terminal Blocks
Pluggable Harnessing Solutions

Polarized plug assemblies can then be inserted in the respective base terminal.



Vertical Base Terminal & Socket / Horizontal Plug & Socket Combination





Insert coding pin CXPOLN in the base Terminal Block. Twist to break.

Snap-on type strain relief plate

Last covering Element Plug

Locking clip locks the Plug with Base Terminal block.

Two independent rows for jumpers

DIN Rail Mounting Base Terminal block.

End Plate to cover the live parts

Connectwell pluggable series Terminal Blocks are an excellent solution for creating wire harnesses which ease field wire connections.

Standard jumpers and marking tags can be installed on the base terminal. The base Terminal Block has a provision for installing CX2.5PN series plugs.

Various wire and plug receptacle base terminal options are available to create unique wire harnessing solutions.

Standard green yellow ground / earth base Terminal Blocks are also available for grounding applications.

Technical Details :	
Wire Size	0.2 - 2.5 mm^2 / 24 - 12 AWG
Voltage	500 V
Current	Upto 24 A
Standards	IEC60947, UL1059, CSA22.2-158
Approvals	
Rated Impulse Voltage	8 KV

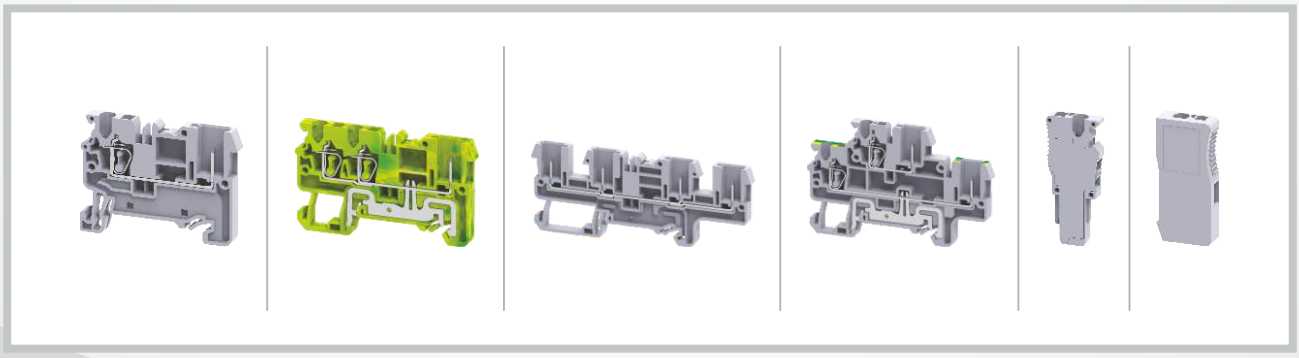
Features:

- Polarized plug & socket combinations for error free wiring
- High pull-out forces
- Compact size
- Pluggable jumpers

Product Range:

| Standard Feed Through | Multiple Connections |

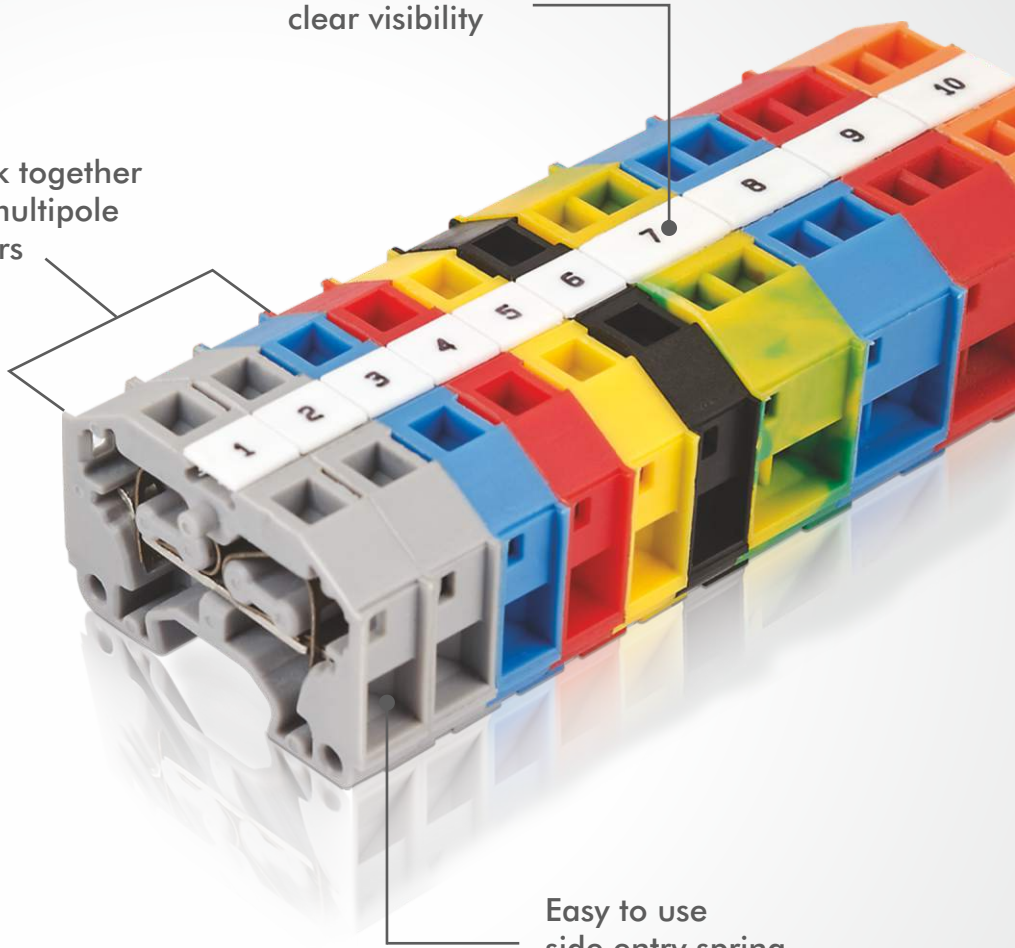
| Multiple Level | Ground / Earth |



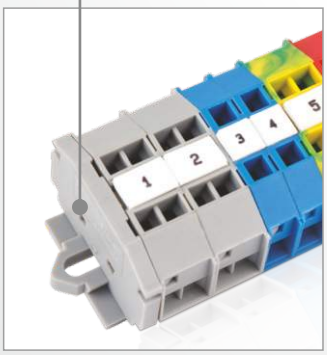
PANEL MOUNT
Spring Clamp Terminal Blocks

Top marking for clear visibility

Can stack together to form multipole connectors



Fixing flange on Terminal & End Plate for Panel mount



Easy to use side entry spring clamp Terminal Blocks

CM series Terminal Blocks have a side wire entry configuration These blocks are an excellent solution for extremely compact wiring applications. The Terminal Blocks are "modular" and can be stacked to form multipole assemblies. The stacked assemblies can be mounted on the panel surface using an End Plate at one end only.

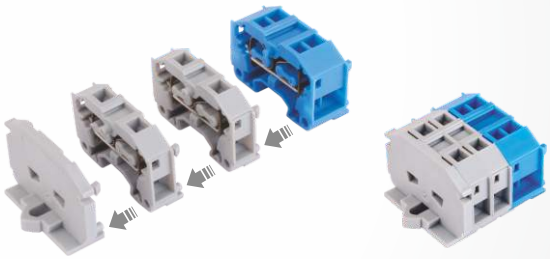
These Terminal Blocks are perfect solution for industries like Control Transformer, Elevators, Junction Boxes and applications with limited wiring space. These are also used inside railway coaches for lighting application.

Technical Details :	
Wire Size	0.2 - 4 mm^2 / 24 - 10 AWG
Voltage	1000 V
Current	Upto 32 A
Standards	IEC60947, UL1059, CSA22.2-158, IEC 60079-7
Approvals	
Rated Impulse Voltage	6 KV

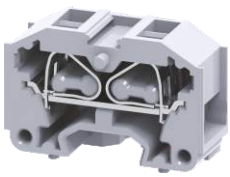
Features:

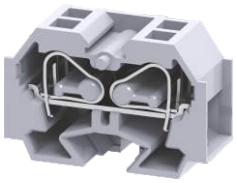
- > Miniature form factor
- > Stackable
- > High pull-out forces
- > Compact size

Panel Mounting on any Surface with help of Screws.

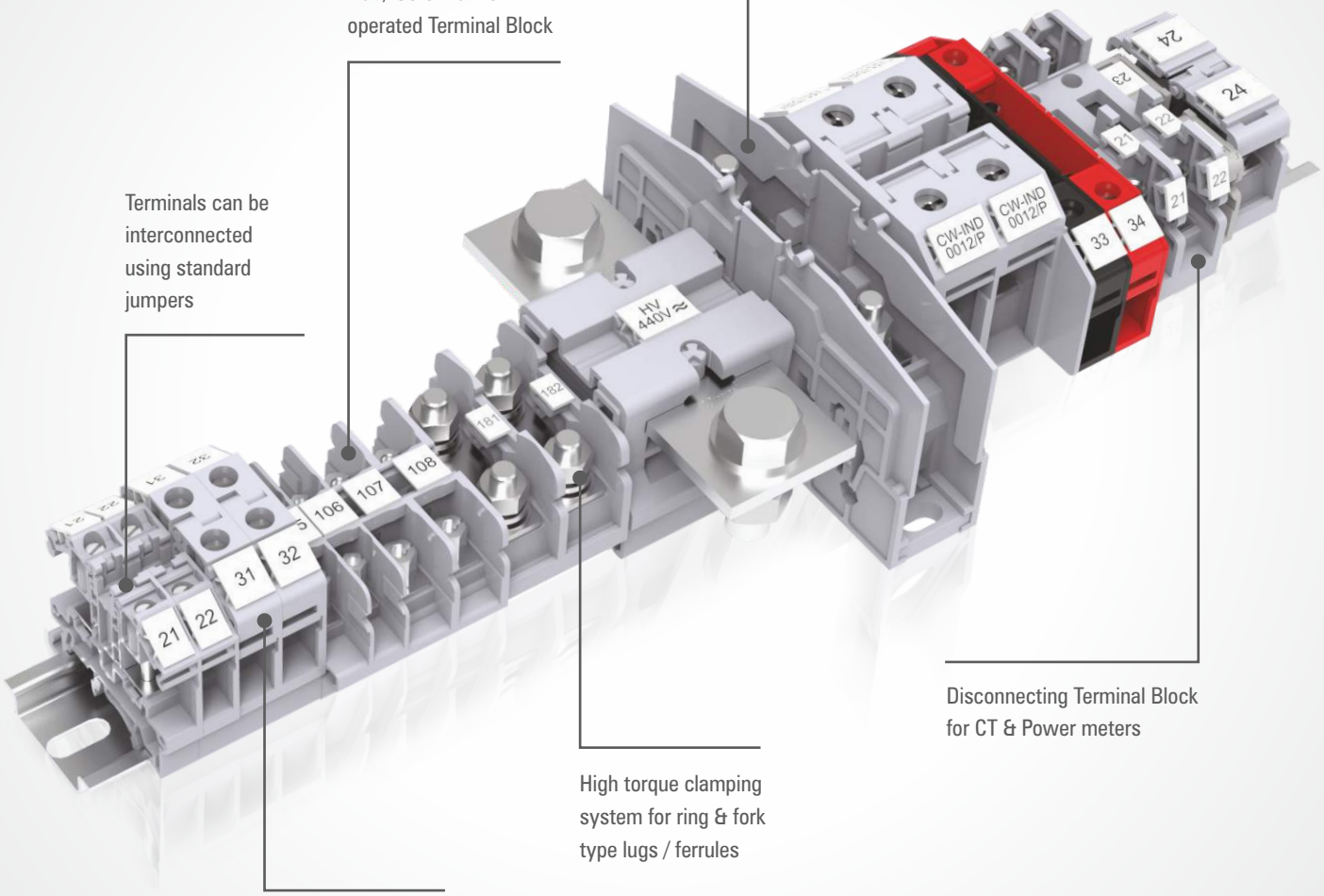


Modular assembly with stackable end plate





STUD / BOLT TYPE
Terminal Blocks



Stud Type Terminal Blocks are used in applications subject to severe vibration. Connection is made by crimping the wire on a ring / fork lug which is screwed on to the flat current bar.

The range includes conventional bolt type Terminal Blocks and IP20 shock protected terminal systems. These Terminal Blocks are operated by a regular screw driver or a standard nut driver. In some of the blocks the fastening nut is captive in its carrier and connection is made by lifting the carrier, inserting the wires crimped on lugs and the carrier is then snapped back into position. The nut is then fastened using a screwdriver to complete the connection. Internal and External shorting links / jumpers are available for connecting multiple Terminal Blocks. The disconnecting Terminal Blocks range are used for measuring, control and regulatory circuits. The Power Terminal Blocks are used for wires with large cross section. These Terminal Blocks have specially designed mounting feet that provide a tight grip when snapped on the DIN Rail.

Technical Details :	
Wire Size	0.5 - 185 mm^2 / 22 - 350 KCMIL
Voltage	1000 V
Current	Upto 353 A
Torque	0.5 - 14 Nm / 4.5 - 127 lb.In
Standards following	IEC60947, UL 1059, CSA22.2-158, VDE
Approvals	
Rated Impulse Voltage	8 KV

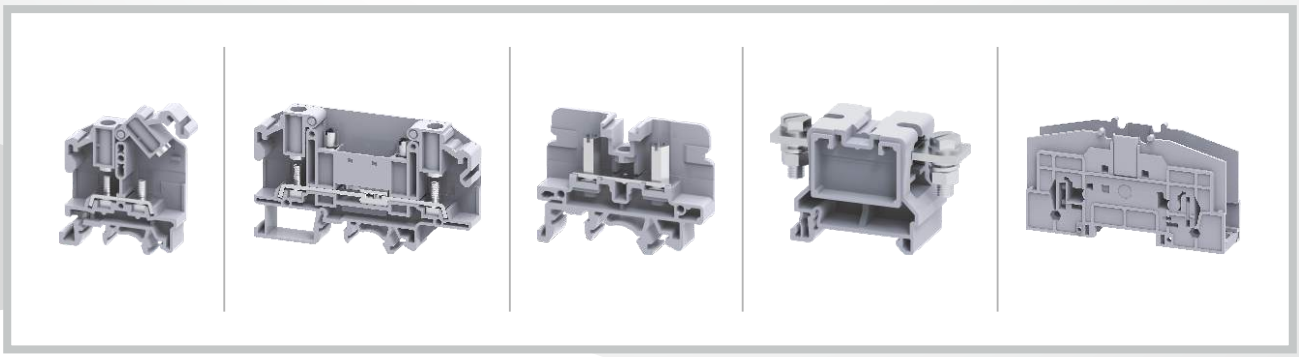
Features:

- > Safe and Reliable
- > Robust Connections
- > Ring / Fork Lugs
- > Vibration Proof

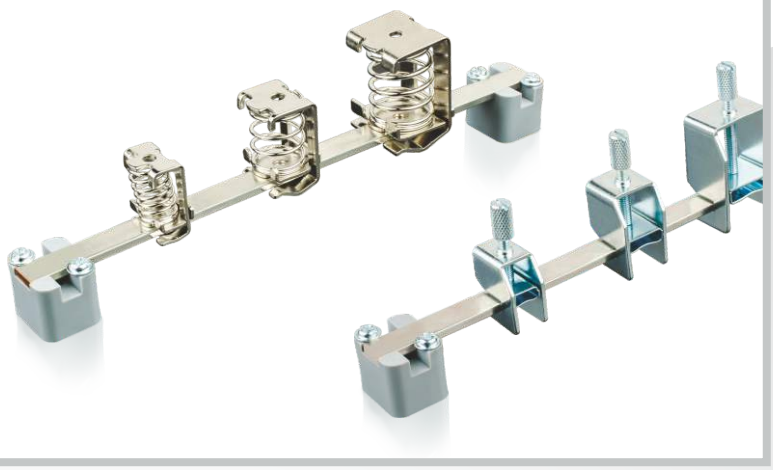
Product Range:

| Feed Through | Hinge Type | Captive Nut |

| Disconnecting | Power Terminal | Bus Bar Type |



SHIELD CONNECTION CLAMPS



SCREW TYPE SHIELD CONNECTION CLAMPS -

The screw type Shield connection clamps are available with knurled screw and suitable for mounting on 10 x 3 mm Busbars. These clamps can be easily used with the mounting support NES or NESCC.

SPRING TYPE SHIELD CONNECTION CLAMPS -

The electromagnetic compatibility of electrical machines and installations has become a very important aspect. Connectwell spring shield connection clamps CCS series are available in a wide range for cable and conductors from Ø2 to Ø32 mm.

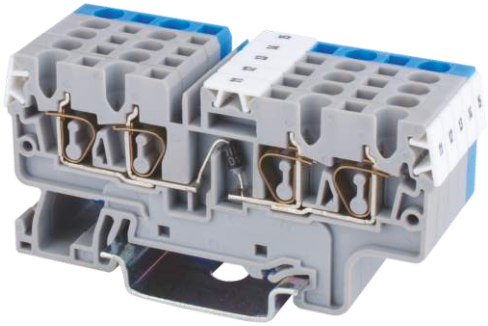
Technical Details :	Screw Clamp
Cable Sizes	**Torque**
Ø8 mm	0.6 Nm
Ø14 mm	0.8 Nm
Ø20 mm	0.8 Nm
Ø35 mm	1.5 Nm

Technical Details :	Spring Clamp
Cable Sizes	
Ø2 - 6 mm, Ø3 - 8 mm, Ø4 - 13.5 mm, Ø10 - 20 mm, Ø15 - 32 mm,	

Features:

- Low contact resistance and impedance
- Suitable for all types of standard shielded cables
- Shield Clamps are easy to install and can be simply mounted on 10 x 3 mm Busbar
- Can be Panel mounted or mounted on DIN 35 Rail using mounting support

TERMINAL BLOCKS WITH ELECTRONIC COMPONENTS



These are electronic series spring clamp Terminal Blocks with built in diodes and LED.

The built in diode acts as a free wheeling diode which is connected across the inductive load such as relay coils, solenoid valves, contactor coils to eliminate or suppress sudden voltage spike which appears across the load when its supply voltage is removed.

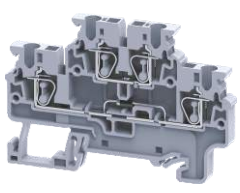
CXDL2.5(E)LD1 Terminal Block has a built in LED circuit for online indication.

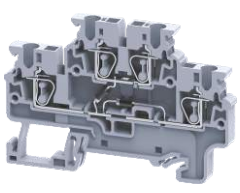
CX2.5/4(E)D1 is specially designed 4 wire spring clamp Terminal Block with a built in diode. This Terminal has a built in 1N4007 diode for reverse polarity protection and also allows uni directional flow of current.

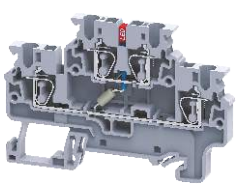
Technical Details :	
Wire Size	0.2 - 2.5 mm^2 / 24 - 12 AWG
Voltage	1000 V
Current	1 A
Standards	IEC60947, UL1059, CSA22.2-158
Approvals	
Rated Impulse Voltage	8 KV

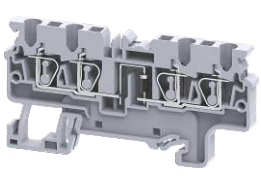
Features:

- Save 40% of wiring time
- High pull-out forces
- Compact size
- Push-In jumpers
- Online indication with LED version
- Reverse polarity protection with diode version

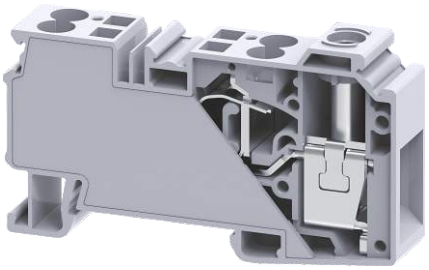








COMPACT HYBRID DISTRIBUTION
Terminal Blocks



CXDB35/10 is a compact Distribution Terminal Block. It is designed to suit standard Miniature Circuit Breaker (MCB) distribution boxes.

The terminal block is capable of accepting 35mm^2 cables at the input side and 4 wires of 10mm^2 can be connected at the output side.

The input cable is connected with a standard screw clamp system and the output wires can be connected with quick and reliable Spring clamp connections.

CXDB35/10 is a modular system and standard JX series jumpers can be used to add more connection points.

For distribution applications please note that the total system current should not exceed the allowed 125 A criteria.

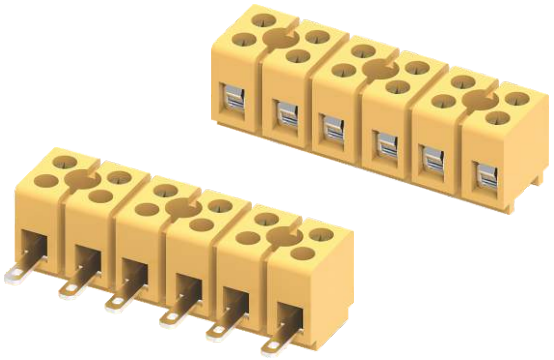
Connection Possibility at Input as per		IEC	UL - CSA
With 1 Conductor per clamp	Stranded / Flexible	1.5 - 35.0 mm^2	14 - 2 AWG
	with Ferrule / Lug	1.5 - 35.0 mm^2	14 - 2 AWG
With 2 same size Conductors per clamp	Stranded / Flexible	1.5 - 10.0 mm^2	12 - 4 AWG
	with TWIN Ferrule / Lug	1.5 - 10.0 mm^2	12 - 8 AWG

Ratings at Input As Per	IEC60947-7-1	UL-1059	CSA22.2-158
Voltage	1000 V	600 V	600 V
Current	125 A	115 A	115 A
Torque	2.5 Nm	25 lb-in	25 lb-in

Connection Possibility at Output as per		IEC	UL - CSA
With 1 Conductor per clamp	Stranded / Flexible	0.2 - 10.0 mm^2	24 - 8 AWG
	Solid		
	with Ferrule / Lug	0.2 - 10.0 mm^2	24 - 8 AWG
With 2 same size Conductors per clamp	with TWIN Ferrule / Lug	0.2 - 4.0 mm^2	24 - 12 AWG

Ratings at Output As Per	IEC60947-7-1	UL-1059	CSA22.2-158
Voltage	1000 V	600 V	600 V
Current	41 A	41 A	41 A

MULTIPOLE STRIP TERMINAL BLOCKS



The CMST series Terminal Blocks can be directly mounted on panel surfaces with the help of fixing screws. They are available from a 2 upto 12 pole configuration.

CMST2 series Terminal Blocks are an ideal choice for transformers. It has a special current bar design, enabling direct soldering of transformer wires.

The CMST terminal strip can also be fixed on the edge of transformer plates / panels with the help of FPCMST fixing plates.

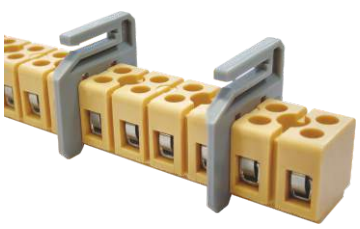
Cross connection can be achieved with the aid of insulated jumpers.

Technical Details :	
Wire Size	0.2 - 2.5 mm^2 / 22 - 14 AWG
Voltage	400 V
Current	24 A
Standards	IEC60947, CSA22.2-158
Approvals	
Rated Impulse Voltage	6 KV

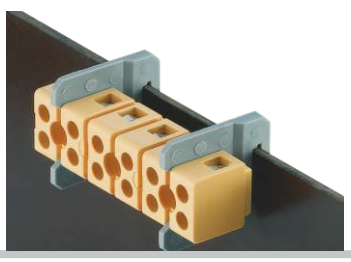
Features:

- High grade, V0 melamine material
- Suitable for 130^0 C application
- Can be cut to the required pole configuration
- Special wire protector to avoid cable damage while tightening the screw

FPCMST Partition plate for terminal strip



Mounting of terminal strip with panel fixing plate FPCMST



CERAMIC TERMINAL BLOCKS

These Terminal Blocks are used in extremely high temperature applications such as hot melt glue guns, furnaces, heaters, process equipment and machinery. These Ceramic Terminal Blocks have an operating temperature range of -40^0 to 230^0 C.

Technical Details :	
Wire Size	0.5 - 10 mm^2 / 24 - 6 AWG
Voltage	800 V
Current	Upto 65 A
Standards	IEC60947, UL1059, CSA22.2-158
Approvals	
Rated Impulse Voltage	4 KV

Features:

- Special ceramic material for high temperature applications
- Different pole configurations for various applications
- Special copper alloy current bar
- Cold rolled threaded steel screws

CERTIFICATIONS & APPROVALS

connectwell

is an ISO 9001:2015 Company with products and systems approved by various credible third party organizations

Cert. No.: 44 100 990789/01-E3

TUV NORD

VDE Testing & Certification Institute

Underwriters Laboratories Inc

Canadian Standards Association

ATEX - IECEx

(IECEE) CB Scheme

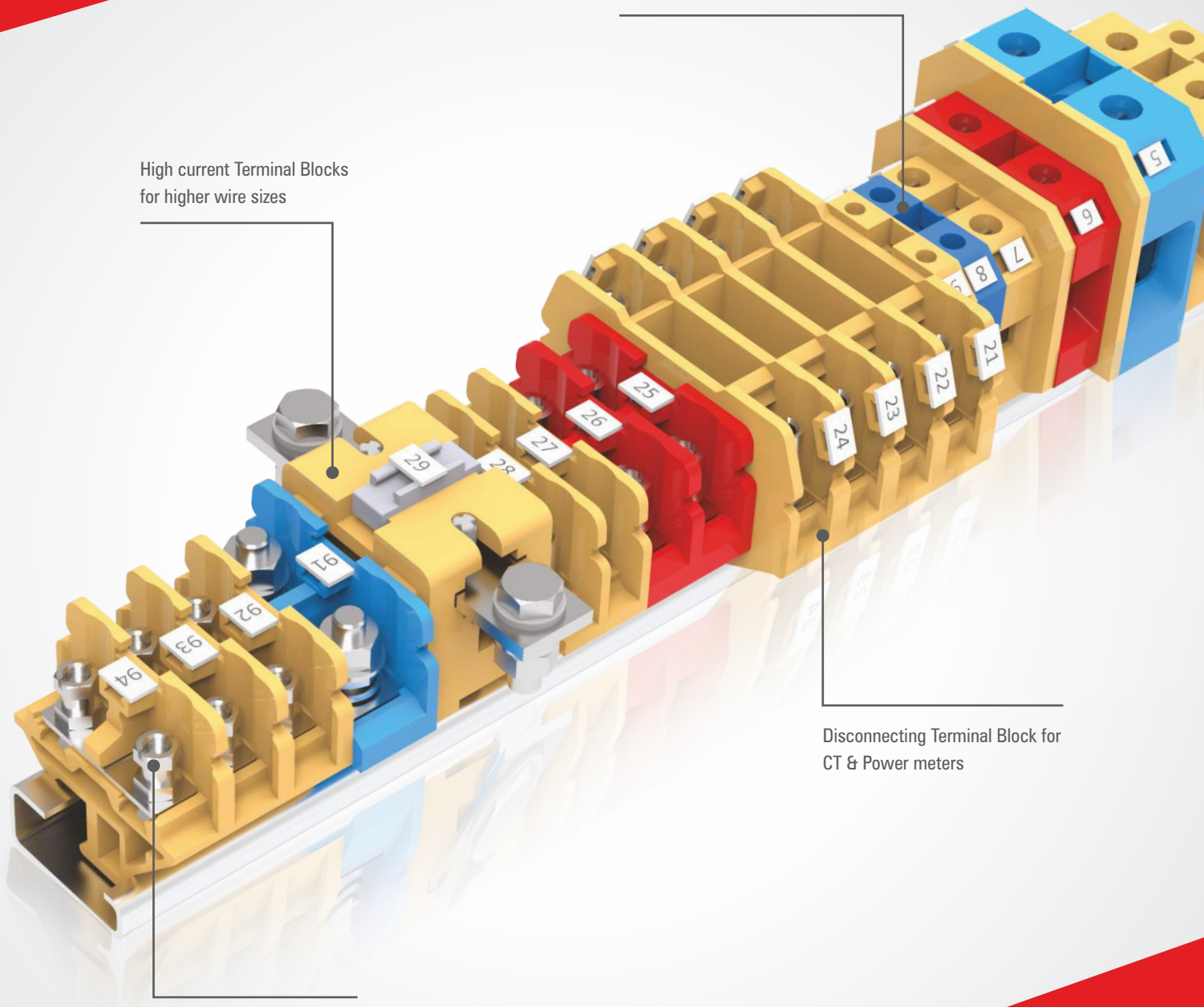
(IECEE) CE Scheme

STQC Certification Services

MELAMINE
Terminal Blocks

High torque clamping system ensuring safe & gas tight connection

High current Terminal Blocks for higher wire sizes



Disconnecting Terminal Block for CT & Power meters

Nut / Screw driver operated stud type Terminal Block

Melamine Terminal Blocks are suitable for applications involving high temperature. Connections can be made by simply stripping the wire of its insulation to the recommended length and clamping it without any additional preparation. In no instance does the clamping screw act directly on the wire and this effectively prevents damage to the wire.

Screw Clamp series with High torque clamping system ensuring safe and gas tight connections.

High torque clamping system for ring & fork type lugs / ferrules for areas prone to high vibrations.

Extremely reliable connections for Higher wire sizes with additional isolation plates are used to make these assemblies safe.

Disconnecting Terminal Block system is a versatile wire connection method for current transformer and power meters.

Strip type terminals are used for electric and electronic equipments.

Technical Details :	
Wire Size	0.2 - 95 mm^2 / 22 - 4/0 AWG
Voltage	1000 V
Current	Upto 300 A
Torque	0.4 - 10 Nm / 7 - 87 lb.In
Standards following	IEC60947, CSA22.2-158
Approvals	
Rated Impulse Voltage	8 KV

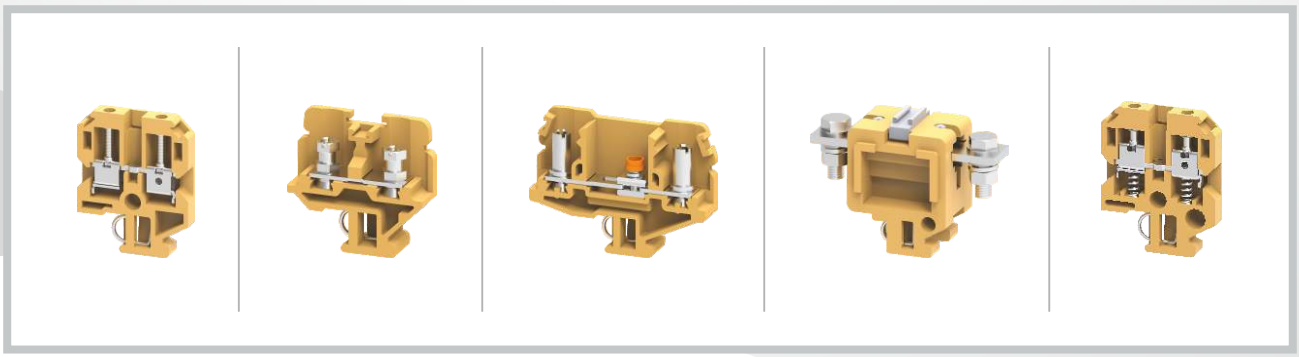
Features:

- > Safe Wiring
- > Connection Reliability
- > High pull-out forces
- > Flexible & Rigid conductor can be connected with or without ferrule

Product Range:

| Feed Through | Stud Type | Disconnect & Test |

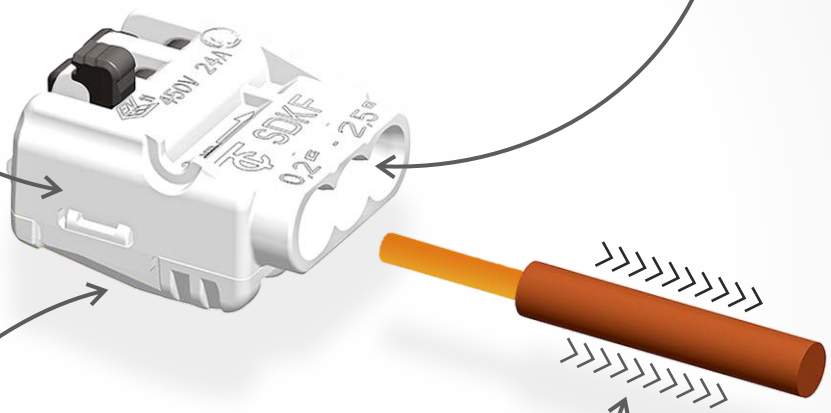
| Bus Bar | Spring Loaded | Multipole Strip Connectors |



SDKF - FREE FLOATING
Connectors

COMPACT
Small form factor allows for connecting multiple wires in constrained spaces

EASY
PUSH-IN spring connections ensure easy and high speed connection of wires



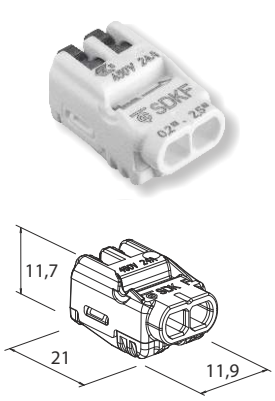
SAFE
A viewing window at the bottom allows for inspection of clamping points

RELIABLE
High Pull-Out Force

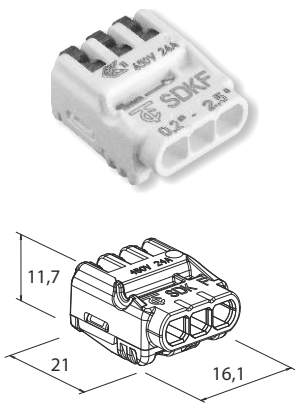
These connectors are the preferred choice for distribution application in small & confined spaces, and are suitable for 2.5mm^2 and 4mm^2 Stranded and Solid wires respectively. These connectors feature a unique "PUSH-IN" Technology for clamping solid wires or wires with crimped Lugs / Ferrules. No Tools are required for connecting the wires which make these free floating connectors an ideal solution for small junction boxes and luminaries.

Technical Details :	
Standard Colour	White
Wire Claming Range	0.2 - 2.5 mm^2 (Stranded)
Wire Claming Range	0.2 - 4 mm^2 (Solid)
Nominal Voltage	450 V
Rated Current	24 A

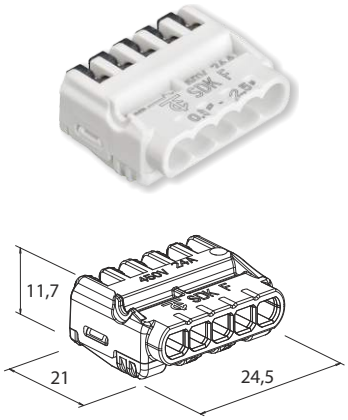
Part No.	SDKF2	SDKF3	SDKF5
No. of Poles	2	3	5
Std. Pack	100	75	50



SDKF2 - 2 Pole



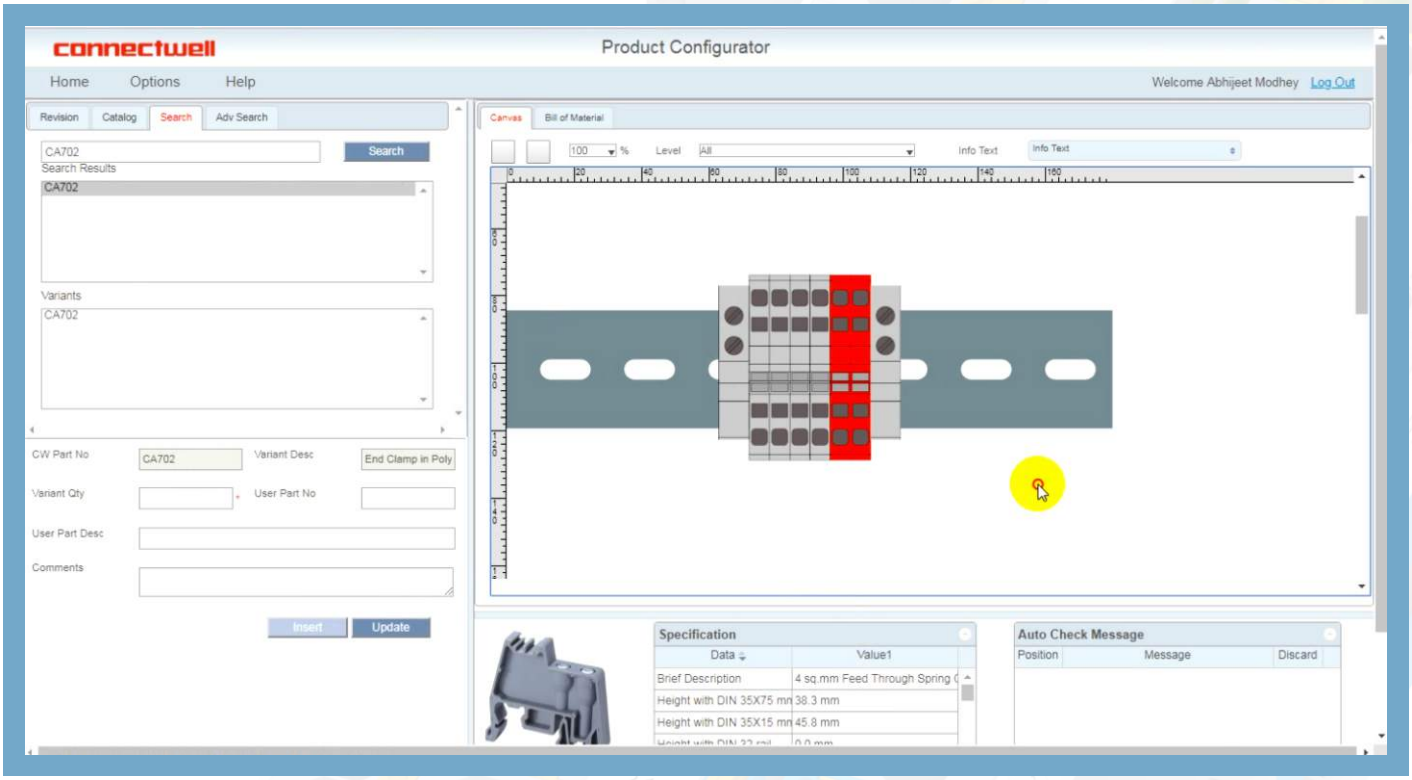
SDKF3 - 3 Pole



SDKF5 - 5 Pole

VIRTUAL config

DESIGN | DOCUMENT | MANUFACTURE | DELIVER



> Free online tool for Terminal Block configuration

> Easy to use software, menu driven, no CAD licencing required

> 2D & 3D output drawing generation

> Complete BOM documentation

> Short manufacturing lead time

> Standardized packaging for configured rail assemblies

http://www.connectwell.com/Global/product-configurator.aspx

CONNECTWELL

is available on ePLAN Data Portal

Get started on the path to improving the engineering design times, costs and quality for Electrical, Instrumentation & Control Systems

Quick Start

Flexible Layout

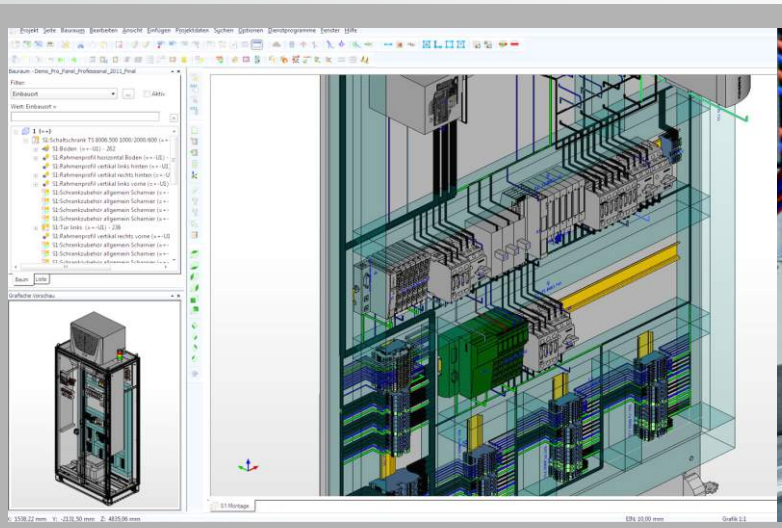
Safe Planning

Consistency for Lively Exchange

Directly into (NC) production

Wiring made easy

Top Class Workflow

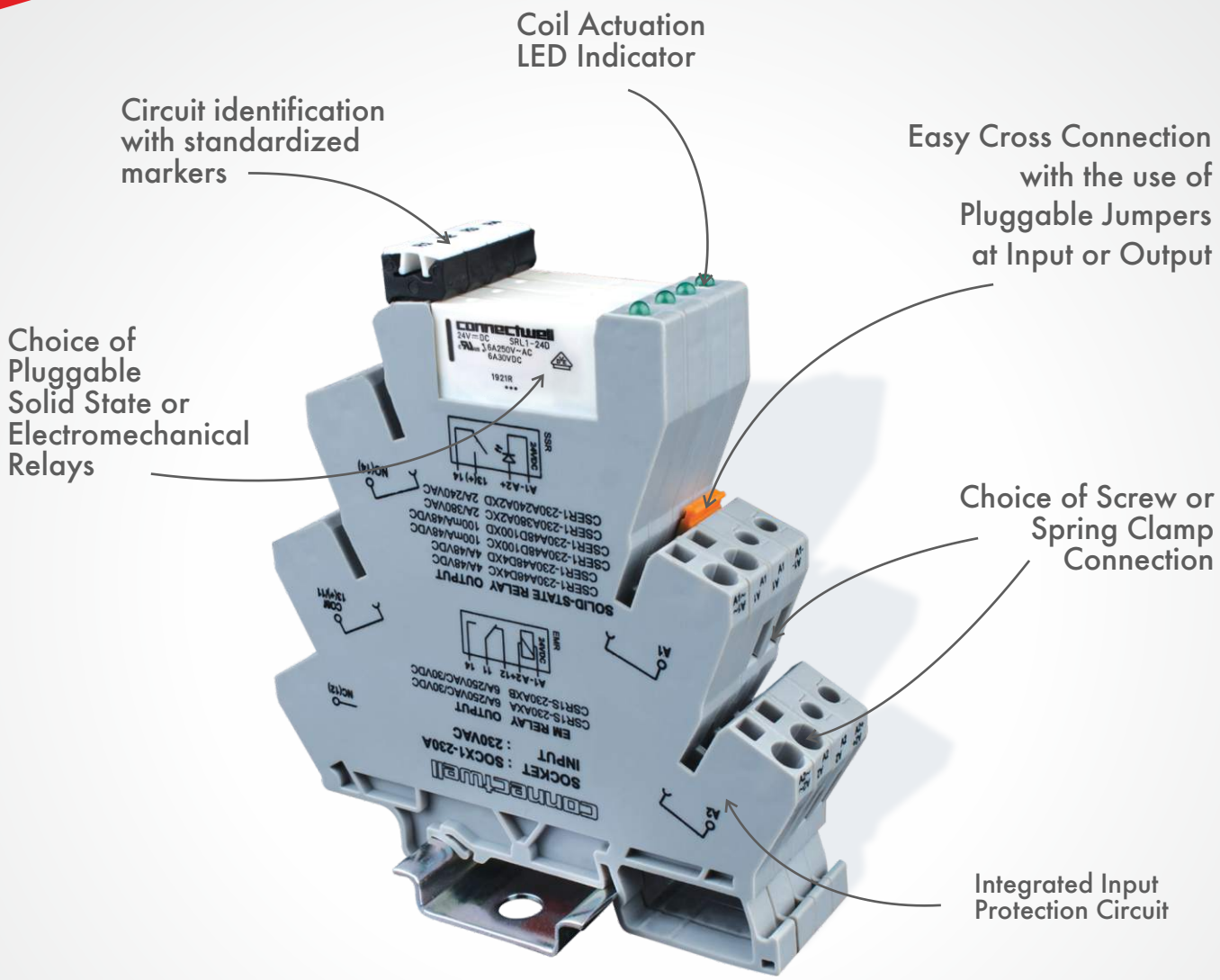


What is ePLAN Data Portal ?

ePLAN software & services is one of the world leading service providers for developing CAx configuration and Mechatronics solutions.

ePLAN offers electrical engineering design software that provides innovative options for the planning, documentation and management of electrical design projects with nearly 7,80,000 device data from more than 200 manufacturers integrated within the ePLAN data portal.

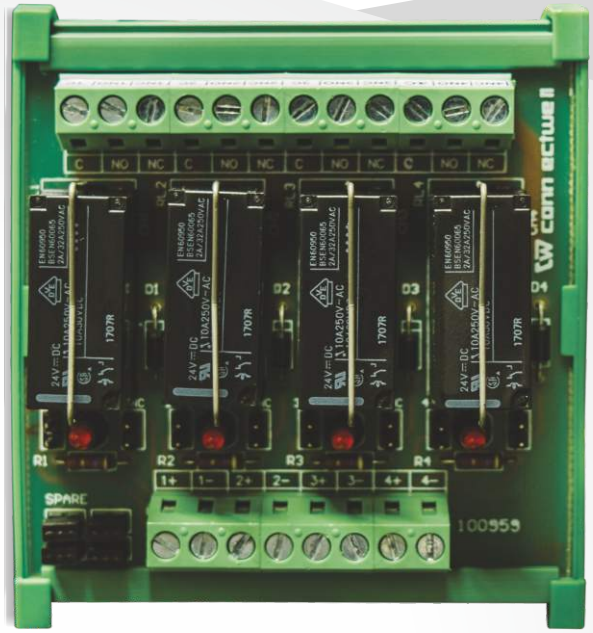
SLIM RELAYS


Coil Actuation
LED Indicator
Circuit identification
with standardized
markers
Easy Cross Connection
with the use of
Pluggable Jumpers
at Input or Output
Choice of
Pluggable
Solid State or
Electromechanical
Relays
Choice of Screw or
Spring Clamp
Connection
Integrated Input
Protection Circuit

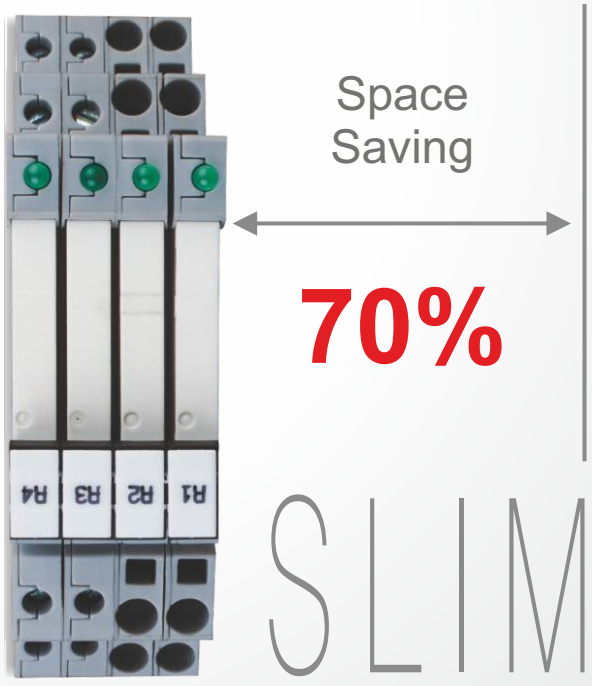
In today's high-tech world it has become inevitable that control panels will progressively reduce in size, forcing us to do a lot more in a lot less space. Connectwell brings you the right solution for such problems in the form of Slim Relays for switching and control applications. Conventional Relay Modules occupy about 20 mm per channel but with Slim Relays the same can be achieved in just 6 mm.

Features:

- Compact with 6 mm form factor
- Variety of operating voltages – 5,24,48-60, 110, 230 VAC/VDC
- 6A@ 250VAC/ 30 VDC
- Pluggable relays
- Possibility of using Electromechanical Relays as well Solid state Relays
- Low coil drive current
- Possibility of shorting adjacent relays with pluggable jumpers
- Screw connection and spring clamp connection possibility
- International approvals on relay socket and relay



Technical Details :	
Type	Electromechanical Relay / Solid State Relays
No of changeovers	1
Coil Voltages	5VDC, 12VAC/VDC, 24VAC/VDC, 48VAC/VDC, 110VAC/VDC, 230VAC/VDC
Contact Ratings	6A@250VAC/30VDC
Positive / Negative bussing Possibility	By using JX series jumpers
Relay Protection	by freewheeling diode, polarity protection, RC Protection
Housing material	PA66
Connection possibility	Screwed connection / Spring clamp connection
Insulation Test voltage	4KV AC (50Hz, 1 Min)
Relay Approvals	

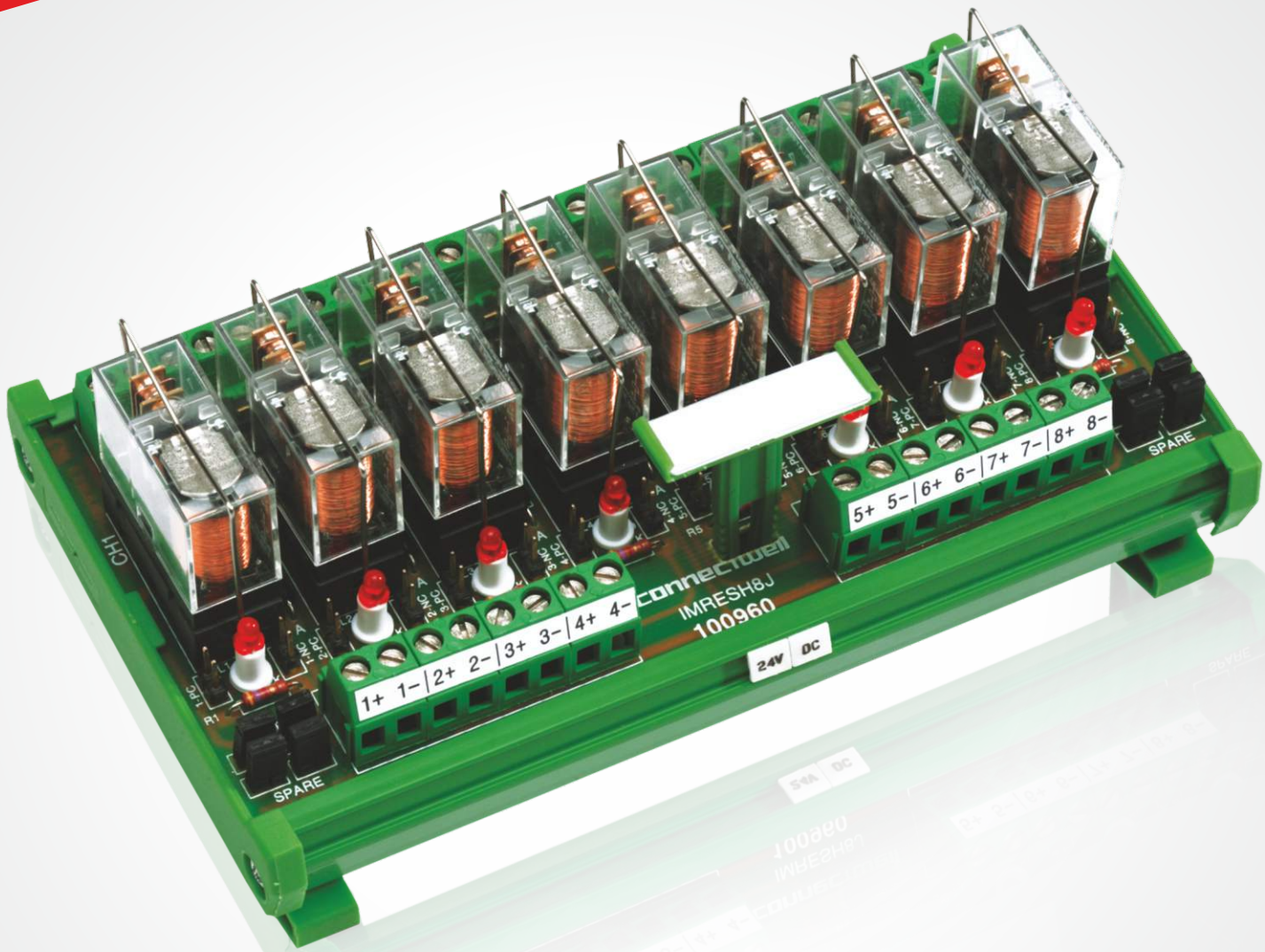


Product Range:

| Slim Relay | Slim SSR |

INTERFACE MODULES

Standard Relay Modules



Connectwell Interface modules offer compact and easy to implement solutions to interconnect sensors, actuators, controlling / monitoring systems together. Connectwell DIN Rail & Panel mounting relay modules are an excellent solution for transmission of electric signals between PLC / DCS system and field actuator / sensor.

These modules provides electrical isolation between control and load circuits with the help of electro mechanical relays. These relay cards comes with Variety of Operating Voltages & easy to replace pluggable relays with relay base. There is a possibility of Bussing (Jumpering) relay input in common negative or common positive configurations & LED Indication to denote relay actuation. Standard mechanical relay module variants are also available with fuse protection at input and output.

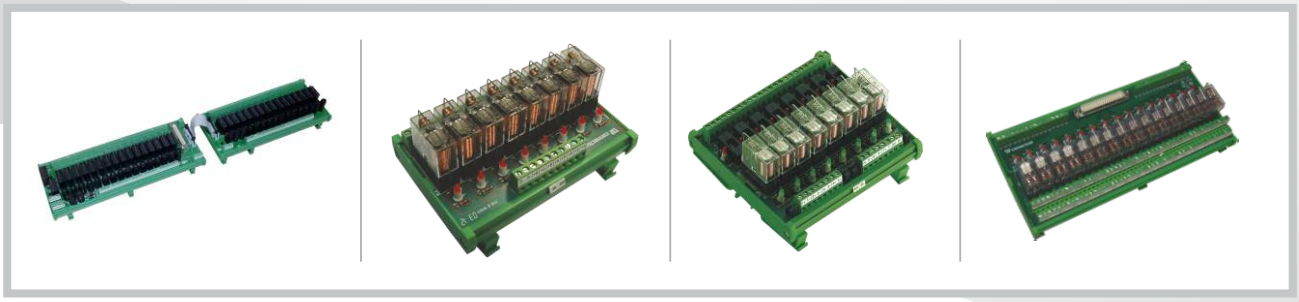
Technical Details :	
No of channels	1,2,4,8,16
Available Coil Voltages	12VDC, 24VAC/VDC, 110VAC/VDC, 230VAC/VDC
Number of Changeovers	1,2,4
Contact Ratings	10A @230VAC/30VDC (1CO), 5A @230VAC/30VDC (2CO), 3A @230VAC/30VDC (4CO)
Connections	Screw / Spring connections
Common Positive / Common Negative	Jumpering possibility
Protection	Freewheeling diode / Fuse protection

Features:

- Number of channels / Relays as per requirement
- Save 40% of wiring time
- Variety of coil voltages: 12, 24, 110 230 VAC/VDC
- Freewheeling diode protection
- LED Indication on coil actuation
- Fuse protection available
- Screw & Spring clamp connection
- V0 Grade mounting accessories
- Common negative and common positive jumpering possibility

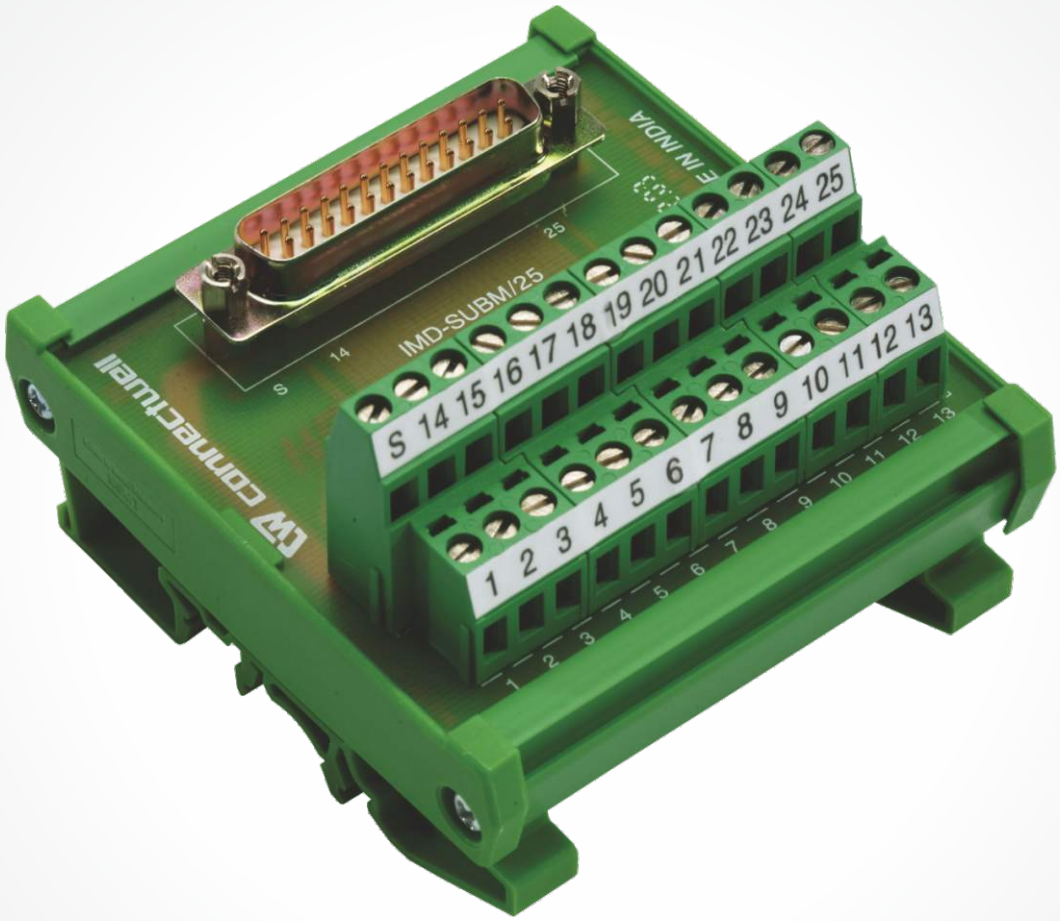
Product Range:

| Standard Relay Modules | DI/DO Modules for DCS Applications | Relay Modules with Fuse | Relay modules with DSUB | Common Negative Relay Modules |



INTERFACE MODULES

Passive Modules



Connectwell offers DIN Rail mountable passive modules. These passive modules are used to convert various connection types. Connectwell IDC / FRC & DSUB modules facilitate quick connections of initiators, actuators and sensors to PLC I/O modules with the aid of pre assembled cable harness. DIN Rail & Panel mounting Component Carrier modules are suitable for building electronic prototypes.

Technical Details :	
Input Connection	IDC/FRC, DSUB,RJ45
Output Connection	Screw Connection Spring cage connection
Mounting	DIN Rail mounting
No. of channels	Standard as per the Input connection

Product Range:

| DSUB Module | IDC/FRC Module |

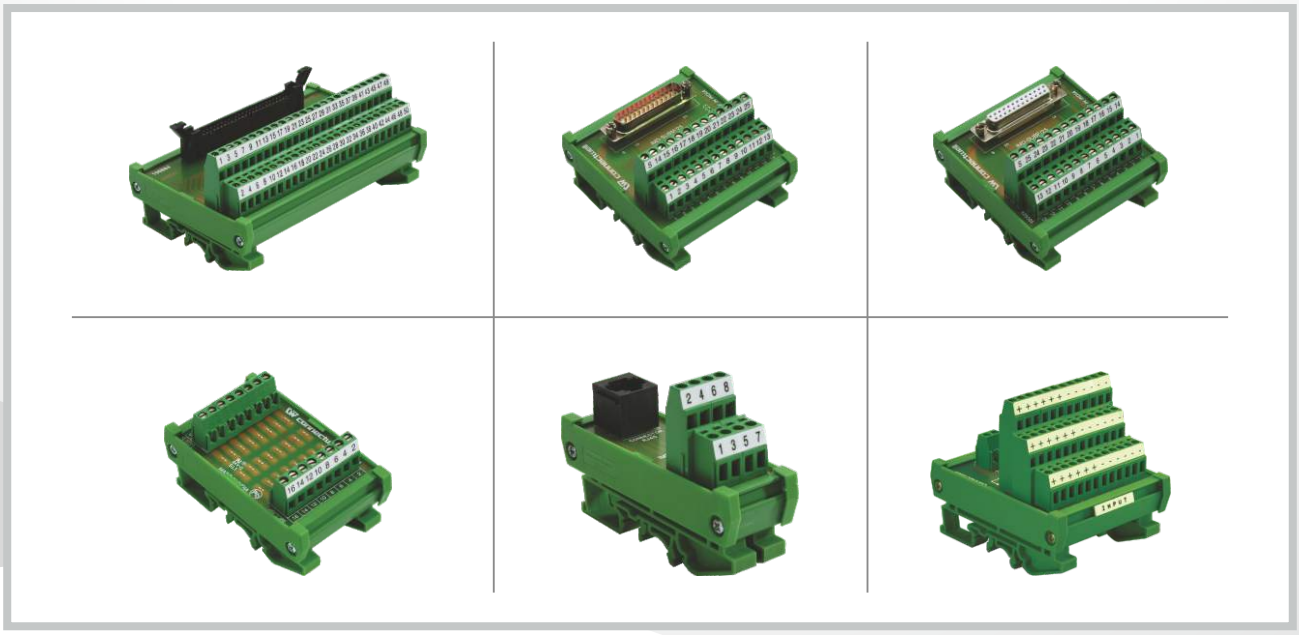
| Diode Module | Distribution Module |

| Component carrier Module |

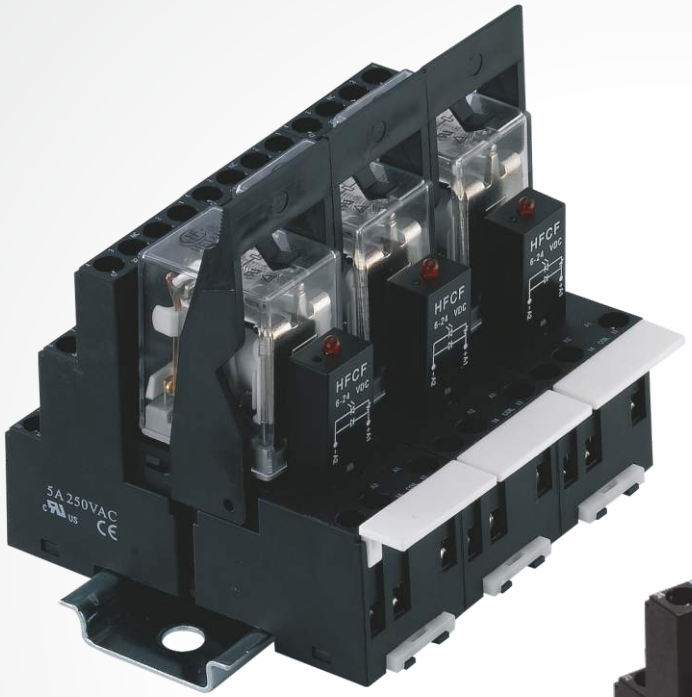
| RJ 45 Module |

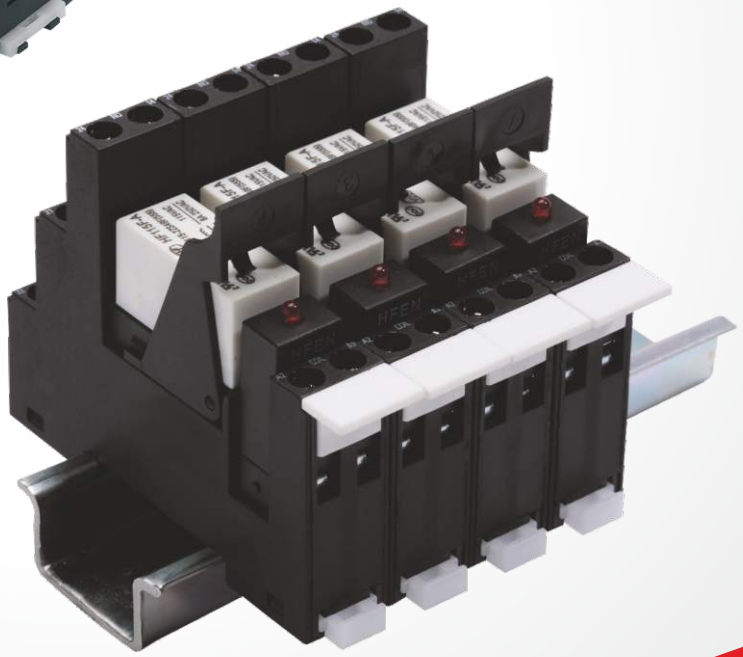
Features:

- Standard Number of channels
- Mounting options available:
  DIN Rail mounting & Panel mounting
- Housed in V0 fire retardant grade
  PVC mounting track
- Ease of connection with the use of
  standard screw connection or spring
  clamp connection PCB Terminal Blocks
- Available with all standard pin configurations
- Available with LED indication
- Possibility of mounting circuit components
  between the pins of IDC connectors



MODULAR RELAYS





Connectwell DIN rail mountable pluggable relay sockets are an ideal solution for switching and protection applications. The relay socket have standardize screw connections and are available in 1, 2, 4 changeover configurations. An additional freewheeling diode module is available and can be plugged in the relay base.

Technical Details :	
Type	Electro mechanical Relay
Protection	Freewheeling diode protection
Coil Voltages	24VAC, 24VDC, 110VAC, 230VAC
Changeover	1,2,4
Contact Ratings	12A(1CO), 8A (2CO), 5A (4CO) @ 250VAC/30VDC
Connections	Screw Connection

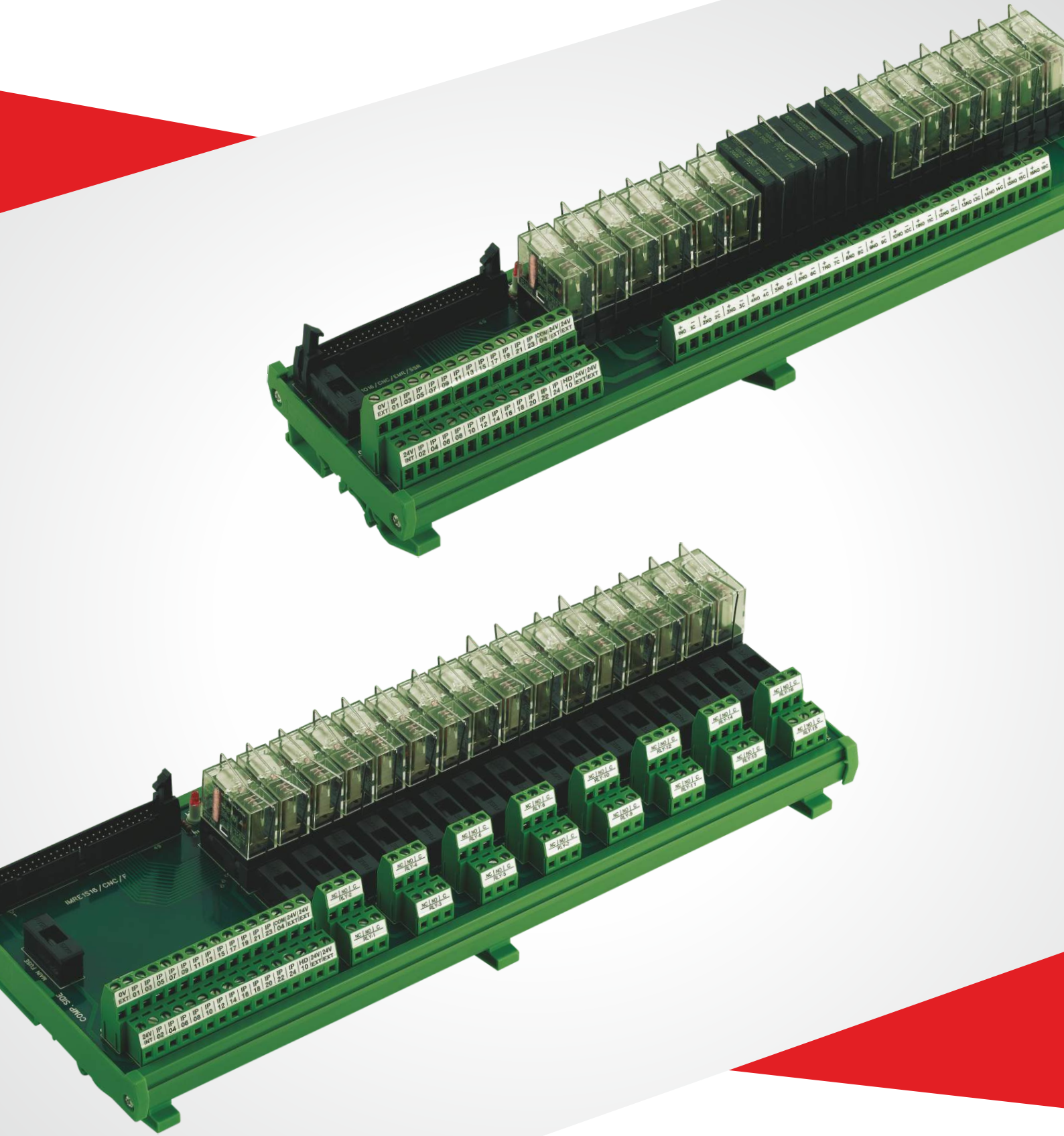
Features:

- High switching current
- Compact design
- Variety of operating voltages
- Freewheeling diode protection for relay coil
- Easy to replace pluggable relays
- Available with 1CO, 2CO & 4CO as a standard
- LED indication to denote the coil actuation
- Base and Relays can be ordered separately
- High Mechanical and electrical endurance

Product Range:

| 1 CO Modular Relay | 2 CO Modular Relay | 4 CO Modular Relay |

MACHINE & CNC
Specific Relay Modules



IMRE1SS16/CNC and IMRE1SS16/CNCSSRx Interface Modules from Connectwell ease PLC wiring in CNC machines. These modules provide connection possibility for both the input and output side of a PLC in a single module and are compatible with various PLCs from Fanuc, GE, Mitsubishi, Schneider & Siemens.

Technical Details :	
Coil Voltages	5VDC, 12VDC, 24 VDC, 110VAC, 230VAC
Coil connection	IDC/FRC Connection / Screw connection
Contact Connection	Screw connection
Configured for	Fanuc, GE, Mitsubishi, Schneider, Siemens System
Protection	Diode and Fuse protection
Applications	Easy compatibility for the machines incorporating PLC

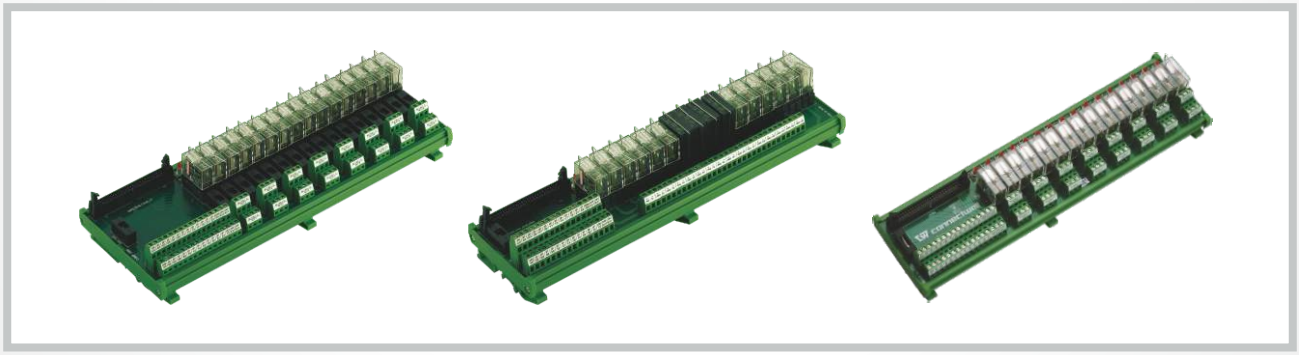
Features:

- Variety of operating voltage
- Pluggable electromechanical relays / Solid State Relays
- Protection by freewheeling diode and fuse
- PVC/V0 grade housing material
- Option to mount on panel or DIN Rail

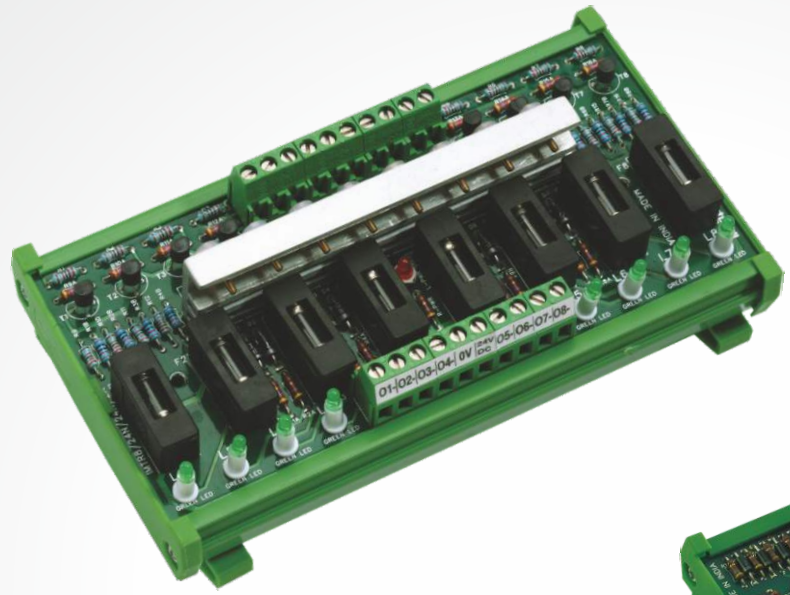
Product Range:

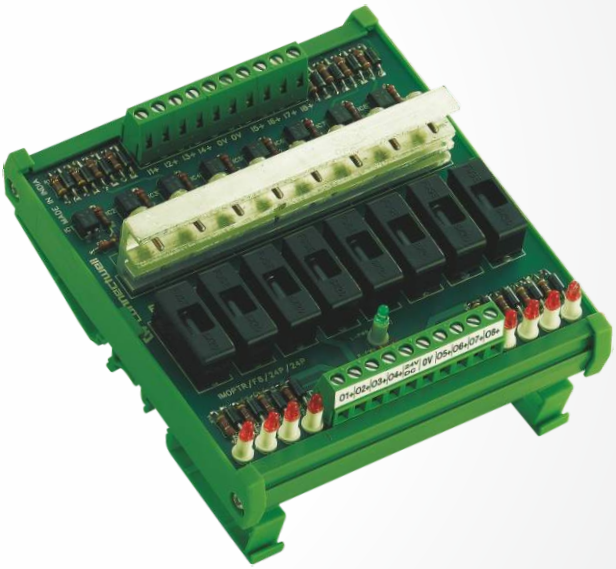
| CNC Modules | CNC SSR Modules |

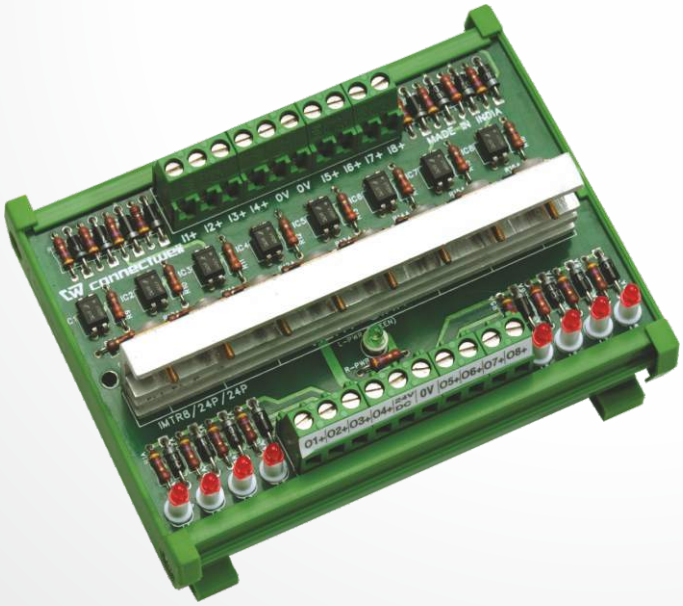
| CNC with Fuse Modules | CNC SSR with Fuse Modules |



TRANSISTOR
Modules







Connectwell DIN Rail & panel mount transistor modules are an excellent solution for switching and protection applications for inductive loads. These modules provide optical isolation between the input and output. They are available with fuse and without fuse protection. Opto-couplers can be incorporated in the board for further isolation and protection.

Features:

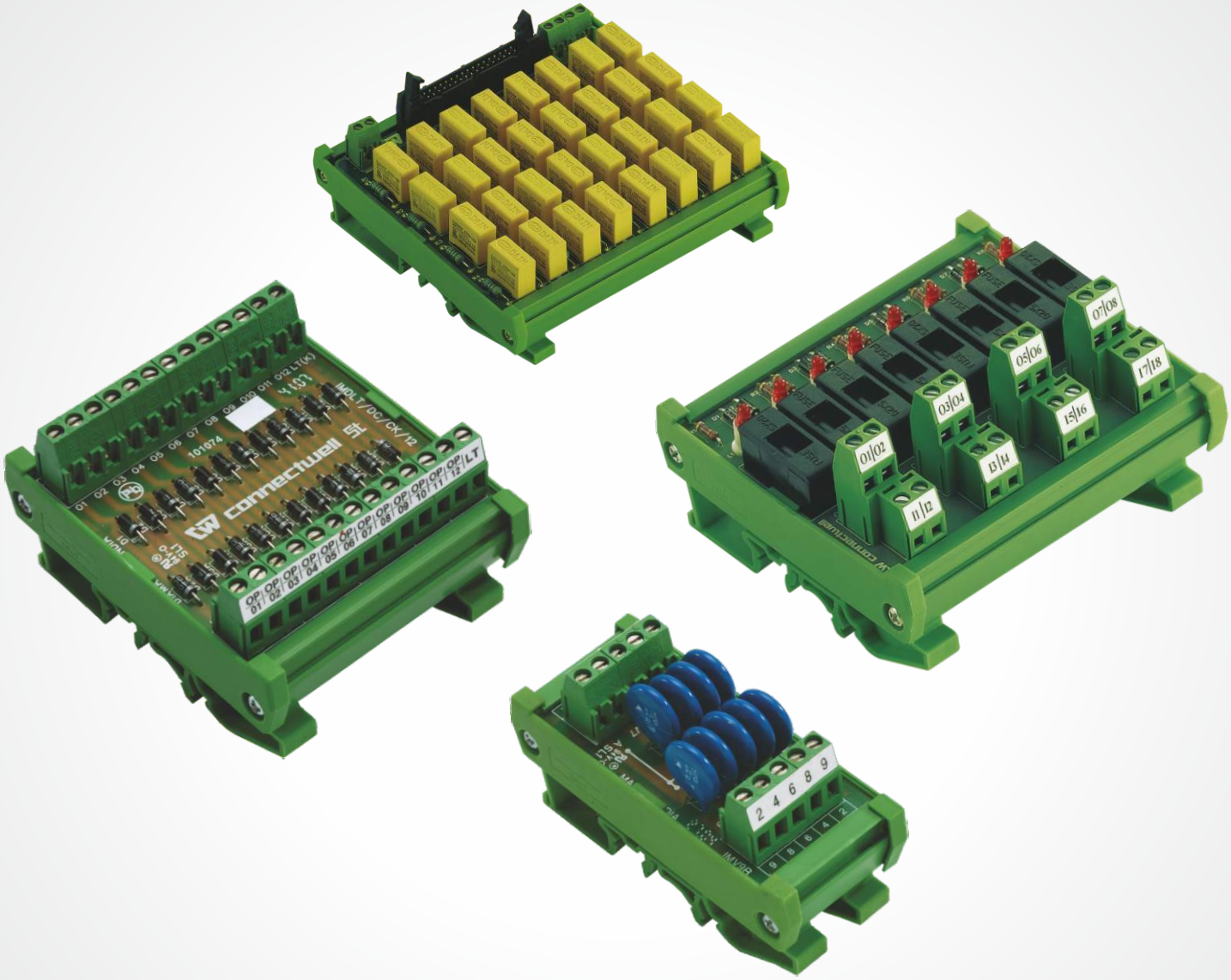
- Custom design for machine specific applications. Specially for solenoid / pneumatic applications
- Interface between PLC and Sensors
- 16 Channel input can be achieved
- Protection: Diode polarity protection, fuse protection
- Isolation: Opto isolation between PLC and Sensors
- Easy to replace opto couplers (Pluggable)
- LED indication for signal input
- Fuse fail indication for main supply
- Solid state switching technology allows switching speeds up to 20 MHZ
- No physical / mechanical switching operation hence an operation life 5 which is 10 times more than electro mechanical relays
- Solid state technology ensures 100% switching with absolutely no bounce or chatter
- Transistors coupled with optical isolators ensure a higher isolation level between input and output

Technical Details :	
No of channels	8,12
Available Coil Voltages	24VDC
Number of Changeovers (Poles)	1 NO
Contact Ratings	2A@24VDC
Connections	DSUB / Screw / Spring connections
Fuse details	0.1, 0.25, 0.5, 0.63, 1, 2, 3A
Type	Sink to sink, source to source, sink to source, source to sink

Product Range:

- Transistor Module
  – Sink to sink type with fuse
- Opto transistor module
  – source to source type
- Opto transistor module
  – source to source type with fuse
- Opto isolation module with DSUB Input

PROTECTION
Modules



It is important to protect PLC/DCS systems from the EMC generated from field due to noise. Connectwell RC modules are an ideal choice to protect sensitive electronic cards from such disruptive noise. Connectwell's varistor modules are used to protect devices from line surges and over voltages.

Features:

- Compact in Size & DIN Rail Mountable
- Ease of connection with the use of standard screw connection / spring clamp connection terminal Blocks
- Housed in V0 fire retardant grade PVC mounting track
- Available with various varistor voltage ratings
- 16/ 32 Channel resistor - capacitor (RC) circuit built-in
- Offered with standard RC values
- Suitable for fuse range from 0.1 A to 6.3 A in slow blow & fast blow fuses
- Replaceable fuses with simple to operate vertical fuse holders
- LED warning possible for fuse blow indication
- Varistor & Diode available with individual, common anode and common cathode configurations
- Lamp test configurations for DC and AC applications available as standard

Technical Details :	
Type	Fuse protection, MOV Protection, Diode protection, RC Protection
Mounting	DIN Rail/Panel Mount
Fuses	Slow Blow / Fast Blow
MOV	50, 130, 275 VAC
Diode	1N4007
RC	0.22 μF
Configuration	Common Anode configuration / Common Cathode Configuration
Connection	Screw Connection / Spring clamp connection

Product Range:

- Diode Module
- RC Module
- Fuse Module
- MOV Module

FAN FAILURE
Modules

Current day semiconductor technology used in components like thyristors, Braking units, PLC, VFD etc. creates high amount of heat inside control panels. Fans are used for air circulation to avoid heat buildup. In case of fan failures, heat emitted by these semi conductor components creates hot zones inside the control panel. Some of the devices inside the panel are temperature critical and the efficiency of these devices goes down with the increase in temperature. Fan failure modules are monitoring devices which are equipped to check the running status of cooling fans inside the control cabinet.

Features:

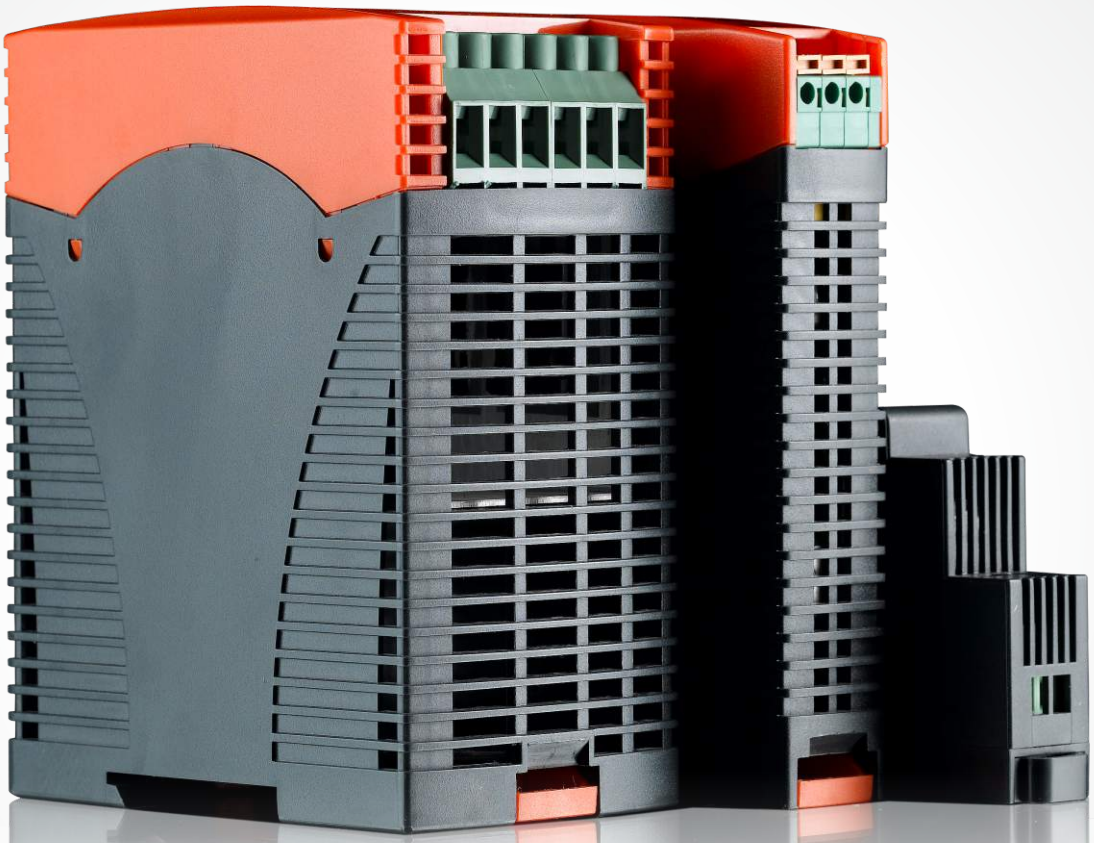
- Available with 2 fans, 4 fans and 4 fans with temperature measurement
- Compact & Standard DIN Rail mounting
- Isolated fan monitor units
- Adjustable Fan over current
- Adjustable Over temperature set point
- 4-20 mA current output
- Fuse protection for each FAN monitor
- LED Indication for Fan status, Temperature status
- Alarm contact for FAN failure, Over-temperature

Technical Details :	
Input Connection	IDC/FRC, DSUB,RJ45
Mounting	Din Rail Mounting
No of Fans	2, 4
Temperature Measurement	Yes
Output	Fan Fault, Temp Alarm, 4-20mA
Protection	Fuse protection

Product Range:

| 2 Fans | 4 Fans | 4 fans + Temperature measurements |

SWITCH-MODE
Power Supplies



GENERAL FEATURES
- Very High Power Efficiency
- Possibility Of Connecting Power Supplies In Parallel*
- In Built Power Factor Correction Circuit*
- Cooling By Convection: No Fans Reduce The Chance Of Failure*
- Fully Encased Ip 20 Plastic / Metal Body
- 2 Years Warranty

INPUT FEATURES
- Extremely Accurate Line Regulation
- Full Range Input Selection from 85 to 264 VAC or Automatic Input Selection between 115 VAC / 230 VAC
- Input Fuse Protection
- Input Over Voltage Protection
- Internal Input Filter to disallow harmonics and EM interference to pass to the supply line

OUTPUT FEATURES
- Very Accurate Load Regulation
- Output Short Circuit Protection
- High Output Voltage Accuracy
- Possibility of Trimming Output Voltage
- Output Ready Signal*
- DC ON Signal
- DC LOW Signal

* These features are available in select models

Standard Single Phase Switching Power Supplies

Connectwell's range of DIN Rail Mounting, Single Phase Switching Power Supplies is available in a wide variety of power ratings, ranging from 5 W to 480 W.

Housed in aesthetically appealing IP 20 protection class plastic or metal casings, these Power Supplies are designed for very high efficiency along with various forms of input & output protection.

Their high output accuracy along with superior load and line regulation make them an ideal choice for varying industrial applications.

c UL us LISTED IND. CONT. EQ. UL 508 | c TÜV us UL 60950-1 | CE

Two Phase & Three Phase Switching Power Supplies

Two & Three phase switching power supplies are available in wide variety of power ratings from 120 W to 960 W. Features like full input voltage range from 340 to 575 VAC, superior load and line regulation, output ready signal, trimable output voltage etc. make these power supplies an ideal choice for two & three phase applications.

c UL us LISTED IND. CONT. EQ. UL 508 | c TÜV us UL 60950-1 | CE

DIN Profile Single Phase Switching Power Supplies

Connectwell's range of DIN profile Single Phase Switching Power Supplies is used in applications where the height available for mounting of Power Supplies is very less.

These Power Supplies are available in a Step Type modular design with form factor similar to that of MCBs making them suitable for mounting in electrical and lighting distribution boards which are commonly seen in building automation applications.

c UL us LISTED IND. CONT. EQ. UL 508 | c TÜV us UL 60950-1 | CE

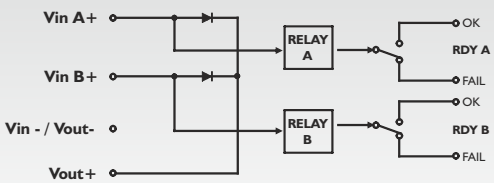
Power Supply Redundancy Module (Diode O Ring Module)

These redundancy modules are required to connect two or more Power Supplies to the application load so as to safe guard it against failure of a single Power Supply.

At any given point only one of the Power Supplies connected to these modules is further connected to the load. Only on failure of one of the Power Supplies does the other Power Supply come into action.

These redundancy modules have advanced features like IP 20 class fully shrouded housing and current ratings as high as 20 A.

CE



Circuit Diagram

POLYAMIDE & METALLIC
Cable Glands

Polyamide Cable Glands are easy to use and provide high-quality strain relief with a wide clamping range. These glands are manufactured from a high-grade polyamide material, an essentially strong material that is self-extinguishing and corrosion resistant. The cable glands are rated up to IP 68 and they are suitable for standard industrial applications. These Cable glands are manufactured and tested according to DIN EN 62444. The lamellar construction of glands provides an excellent grip on the cable.

Metallic Cable Glands are available in brass and stainless steel and offer IP68 protection. Liquid tight cable gland prevents ingress of dust and water. They are suitable for use in environments demanding high levels of chemical and mechanical stability; including measurement and control applications. These cable glands offer optimum strain relief and have lamellar designed plastic inserts for protection against distortion. Cable glands with long thread length or reduced clamping range are available on request. These cable glands are appropriate for harsh environments and heavy machine operating; the working temperature could range from -40^{0}C to 100^{0}C. Silicone sealing ring is used for high temperature (300^{0}C) and can be produced on request.

Technical Details :	
Material	Polyamide 6
Colour	RAL 7001 (Grey), RAL 9005 (Black) RAL 7035 (L.Grey)
Temperature Range	-20° C to +100°C Continuous, 30°C to +150°C Intermittent
Protection Class	IP 68-5 Bar, 30 min
Flammability	UL 94 V2
Sealing Ring	CR-Chloroprene Rubber
Thread Types	PG, Metric, NPT

Features:

- Lamellar construction provides excellent grip on the cable
- Wide clamping range from 3 mm to 44 mm
- Easy assembly
- Up-to-date international approvals
- Manufactured according to DIN EN 62444/50262

Product Range:

| Standard Cable Gland | Spiral Cable Gland | Elbow Cable Gland | Ventilation Cable Gland | Brass Cable Gland | Stainless Steel Cable Gland | EMC Cable Gland |





EXPLOSION PROOF
Cable Glands

The current international regulations for machine manufacturers (94/9/EC) and operators (99/92/EC) prescribe high safety levels. Therefore, in addition to the traditional field of electrical engineering, legally compliant explosion protection also considers all relevant mechanical components - to avoid all ignition sources, including sparks, which can result from electrostatic charges or hot spots. The ATEX - IECEx Directive besides taking into account the electrical sources of the explosion, also considers the potentially explosive concentration of gas, vapor or mist along with dust in the air. Controlwell ATEX explosion protection system features high-grade materials. The use of plastics, nickel-plated brass and Stainless Steel guarantees maximum safety.

Technical Details :	
Material	Polyamide, Brass Nickel Plated, Stainless Steel
Temperature Range	Chloroprene Ex d/tb -40° C to +80° C Ex e/tb -40° C to +80° C Silicon Ex d/tb -60° C to +80° C Ex e/tb -60° C to +140° C
Threads available	Metric, NPT
Protection Class	IP 68 - 5 Bar, 30 Min
O Ring	Chloroprene / Silicon
Equipment Marking	Ex II 2GD Ex eb IIC Gb Ex tb IIIC Db
Suitable for use in	Group II Gas Group IIC Zone1/Zone2 Group III Dust Group IIIC Zone21/Zone22
Sealing Ring	Chloroprene / Silicon

Features:

- Available in polyamide, copper alloy and Stainless Steel material
- Wide temperature range
- Available in Metric, NPT thread
- IP68 Protection
- ATEX certified
- Applicable for Ex II 2GD Ex eb IIC Gb Ex tb IIC Db
- Suitable to use in Gas Group IIC Zone1/Zone2 Dust Group IIIC Zone21/Zone22

Product Range:

| Explosion Proof Polyamide Cable Gland | Explosion Proof Triple Seal Cable Gland |

| Explosion Proof Double Compression Cable Gland | Explosion Proof EMC Cable Gland |

FLEXIBLE CONDUITS

These conduits are designed for a wide range of applications. Available in metallic and non-metallic material, each conduit offers its own blend of flexibility, strength, temperature range and protection. When combined with Controlwell Conduit Glands they offer IP67 protection to cables housed inside. They come with added benefits of being UV Resistant, High Impact Resistance, Halogen Free, Acid Proof and Flame Retardant in nature. With approvals like UL, VDE, CSA and CE Mark these conduits are an ideal choice for cable protection.

Technical Details :	
Material	Polyamide 6/12, Polyethylene, Polypropylene, Galvanized Steel & Stainless Steel
Temperature Range	Metallic : -50°C to + 300°C / Non Metallic: -40°C to 105°C
Protection Class	IP 68 / IP 67 / IP 54
Resistant	Alcohol, Benzol, Mineral Oil, Diesel Fuel, etc.

Features:

- Halogen Free
- Acid Proof & Flame retardant in nature
- UV Resistant
- High tensile strength, providing good impact strength
- Available for a wide temperature range

Product Range:

Polyamide Flexible Conduits	Polyethylene Flexible Conduits Slitted / Unslitted
Twin Slitted Conduits	Lockable Flexible Conduits	Flexi Cover Conduits
Galvanised Steel Flexible Conduits	Liquid Tight PVC Coated Smooth Conduits
Plastic Sealtite Conduit	Stainless Steel Square Locked Conduits

CONDUIT GLANDS & ACCESSORIES

Controlwell offers an exhaustive range of Conduit Glands (Connectors) and Accessories. These glands are available in a wide variety of sizes and orientation to suit straight, 90° and 45° cable entries. These conduit glands are available with PG, Metric, PF, NPT and UNEF thread systems.

For applications where the mounting surface is not threaded, glands with flanges can be used. A wide range of special glands which secure the conduit as well as the cable passing through it is also available.

Accessories like couplers, mounting clips and tube end caps compliment the range of Conduit Glands ensuring high IP protection class and ease of installation. These products carry international approvals like VDE, UL & CE mark.

Technical Details :	
Material	Polyamide 6/12, Polyethylene, Polypropylene, Galvanized Steel & Stainless Steel
Temperature Range	Metallic : -50°C to + 300°C / Non Metallic: -40°C to 105°C
Protection Class	IP 68 / IP 67 / IP 54
Resistant	Alcohol, Benzol, Mineral Oil, Diesel Fuel, etc.
Thread Types	PG, Metric, NPT

Features:

- Halogen Free
- Acid Proof & Flame retardant in nature
- UV Resistant
- High tensile strength, providing good impact strength
- Available for a wide temperature range

Product Range:

Standard conduit glands	Connector to secure cables & conduits
Straight connector with female thread	Metal conduit glands
Glands for liquid tight conduits	Straight conduit glands for AMPC conduits
Straight & 90 elbow glands for ANMSF conduits

HEAVY DUTY CONNECTORS

In this age of high technology, it has become imperative to speed up control and power wiring in the field. Controlwell's range of Heavy Duty Connectors facilitates these type of quick connections.

Once the wires are terminated into the male & female inserts made of polycarbonate material and housed in their respective enclosures, these connectors are ready for Plug N' Play applications.

To ensure ruggedness of these connections along with speed, the inserts are housed in epoxy-polyester powder coated, aluminium die cast enclosures with single or double locking systems.

With ratings up to 80 A, 500 V and IP65 environmental protection, these Heavy Duty Connectors are an ideal choice for extreme industrial environments.

Technical Details :	
Hood / Housing Material	Powder Coated Die cast Aluminium alloy
Protection Class	IP 66
Gasket	Vinyl Nitrile Elastomer (NBR)
Voltage	For Inserts upto 500V
Thread	Pg, Metric
Temperature Range	-40° C to +125° C
Flammability	UL 94 V0
Insert Material	Polycarbonate
Contact Material	Silver / Gold Plated Copper Alloy

Features:

- Fully Captive Screws
- Monoblock metal levers for prolonged life without damage.
- Riveted pegs in stainless steel to prevent corrosion.
- Innovative design of enclosures for improved aesthetics and functionality.
- Fully cross compatible with other makes.
- UL, CSA and CE Mark approved electrical inserts

Product Range:

| Top Entry - with 2 Pegs | Top Entry - with 4 Pegs | Top Entry - with 1 Lever |
| Top Entry - with 2 Lever | Side Entry with 2 Pegs | Side Entry with 4 pegs |

JUNCTION BOX

Controlwell presents a range of Junction Boxes manufactured from Halogen-free ABS, which offers superior resistance to chemicals and atmospheric agents. Available with Smooth Walls, Membranes and Nipples to allow wire entry, these junction boxes offer IP65 protection by means of the silicon rubber gasketing. They are available with press-on type, screw type and hinge type lids which may be grey in colour or transparent.

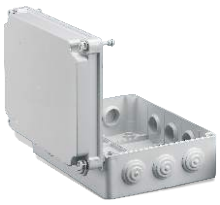
Technical Details :	
Material	Thermoplastic / Polycarbonate
Colour	Grey
Temperature Range	-25° C to +60° C
Protection Class	IP 65
Screw	Stainless Steel / Nylon
Gasket	Silicon Rubber EPDM
Lid	Grey Colour / Transparent
Standard	IEC 670, CEI 23-48

Features:

- Made of halogen-free thermoplastic
- Choice of grey colour lid or transparent lid
- Membranes in these Junction Boxes, act as a Cable Glands offering IP 65 protection
- Polycarbonate boxes are suited for outside applications. Made of UV resistant plastic

Product Range:

| Junction Box With Smooth Walls | Junction Box With Membrane & Nipples |
| Junction Box With Knockouts | Polycarbonate Junction box |

CABLE DRAG CHAINS

Cable carriers, also known as drag chains or cable chains are guides designed to surround and guide flexible electrical cables and hydraulic or pneumatic hoses connected to moving automated machinery. They reduce wear and stress on cables and hoses, prevent entanglement, and improve operator safety. Cable carriers may be arranged to accommodate horizontal, vertical, rotary and three-dimensional movements.

Controlwell cable drag chains are made with glass fiber reinforced polyamide raw material and innovative technology in complete adherence with the international quality standards.

Technical Details :	
Chain Material	Glass fiber reinforced Polyamide, UL 94-HB
Temperature Range	-30° C to +130° C
Inner Width	From 6 mm to 600 mm
Noise	40 dB (DIN EN 61672-1), 30 dB (DIN EN 61672-1)
Speed	10m / sec, 15m / sec
Applications	Gantry Robot, Machine Center, Textile Machine, Welding Machine, Wood Work Machine and Fabric Machine

Features:

- Available in Open type, Semi enclosed & Fully enclosed design
- Low noise high speed operation
- Bending radius can be adjusted easily and freely
- Low dust for clean room area

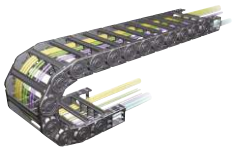
Product Range:

| **CPS Type Cable Drag Chain** |

| **ST Type Cable Drag Chain** | Normal Type | Enclosed Type |

| Sliding Type | Sliding With Roller Type |

| **Sabin Type Cable Drag Chain** | Normal Type | Enclosed Type |

INDUSTRIAL PLUGS & SOCKETS

Industrial Plugs and Sockets from Controlwell provide a versatile and robust connection system for industrial field and factory connection applications. These Plugs and Sockets are designed and manufactured as per IEC 60309-1 and IEC 60309-2 standards and are compliant with the CEE system ensuring that they are 100% cross compatible with products from other manufacturers. These Industrial Plugs & Sockets are CE marked and are RoHS compliant. The housings of these Industrial Plugs and Sockets are made of halogen free, V0 grade Polyamide 6 material and hence are non-flammable with a very high impact resistance. The contacts are made from electroplated copper alloy offering high corrosion resistance and very low contact resistance. By virtue of their design these Industrial Plugs and Sockets enable low insertion and extraction forces while maintaining excellent electrical contact.

Technical Details :		
Contacts		
Material	Halogen Free Polyamide 6	
Material	Copper Zinc Alloy (MS58)	
Contact Resistance	< 1mΩ	
Connection Type	Screw Connection	
Suitable Wire Cross Section	**Stranded**	**Solid**
16 A	4 mm^2	6 mm^2
32 A	6 mm^2	10 mm^2
63 A	16 mm^2	25 mm^2
125 A	50 mm^2	70 mm^2

Technical Details :	
Housing & Contact Carrier	
Material	Halogen Free Polyamide 6
Insulation	$>5^{10}\Omega$
Flammability Grade	V0
Environmental Compliance	RoHS
Ingress Protection	IP44 and IP67

Features:

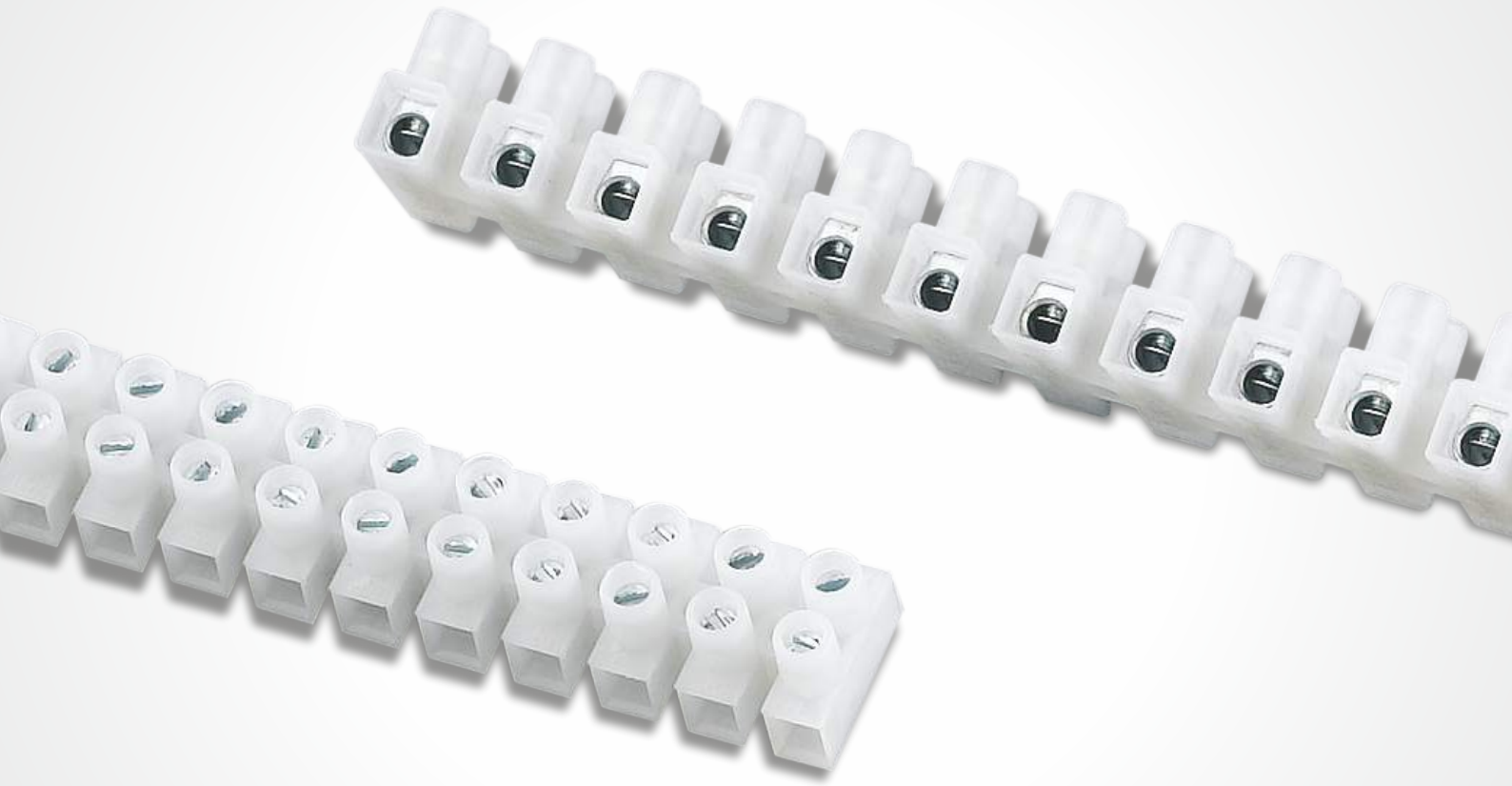
- Compliant with the CEE system
- Made of halogen free, V0 grade Polyamide 6 material
- Low insertion and extraction forces
- Available in 3, 4 & 5 pin configurations

Product Range:

Floating Type Male / Female Plugs	Panel Mount Straight Sockets
Panel Mount Inclined Sockets	Surface Mount Sockets
Panel Mount Straight Inlet	Panel Mount Inclined Inlet	Surface Mount Inlet




MULTIWAY STRIP
Connectors



These strip connectors feature tubular screw clamps and wire protectors which are actuated by a screw. They are available for 2.5, 4, 6 & 10 mm^2 wire sizes and are compact & ideal for small spaces. They can be used as free floating connectors or as panel mounted terminal blocks. Available in standard 12 pole strips, these can be easily cut into combinations of smaller number of poles. Controlwell also offers pre-cut strips of any number of poles less than 12.

Technical Details :	
Wire Clamping Range	0.5 - 10 mm^2
Nominal Voltage	450 V
Rated Current - With Wire Protector	Upto 76A
Housing Material	Polyamide 66 / UL94V0
Insert Material	Copper Alloy
Screw Material	Galvanized Steel
Max. Ambient Temperature for 2, 3, 4 pole configuration	110°C
Max. Ambient Temperature for 6 or 12 pole configuration	85° C

Features:

- Wide cable clamping range
- With wire protector
- Compact size
- Tubular Screw Clamps
- Pre-cut strips of any number of poles

Product Range:

- Multiway Strip Connectors With Wire Protector
- Multiway Strip Connectors Without Wire Protector

SAFETY SWITCHES & SENSORS

Position & Safety Switches

These products meet the highest standards of quality and reliability and are suitable for use in Varied applications where failure is simply not a choice. The range extends from limit switches, encapsulated in insulating material or metal, through foot switches to safety switching devices. The As-i compatible products save time and material in installation and provide cost advantages in operation.

Sensors

Contactless sensors are characterized by absolute reliability, suitability for a wide range of applications and optimum cost-benefit ratio. Their main purpose is to convert mechanical movement into electrical signals that are processed in control systems.

Technical Details :	
Rated operating voltage (Switches)	240 V AC, 24 V DC
Versions	1 NC / 1NO, 2 NC, 2 NO, 2NC
Enclosures	Plastic, Metal
Ambient temperature	-30°C to +80°C
Standards	VDE 0660 T100, DIN EN 60947-1, IEC 60947-1 VDE 0660 T200, DIN EN 60947 5-1, IEC 60947-5-1
Rated operating voltage (sensors)	10-30 VDC

Features:

- Slow-action and snap-action contacts
- Versions: 1 NC / 1NO, 2 NC, 2 NO, 2NC
- All NC contacts with in the circuit diagram are positively opening contacts
- Protection class: IP67
- Anti-tamper facility due to multiple coding
- Easy to install, and simple to use

Product Range:

| Position & Safety Switches | Foot Switches | Magnetic & Optoelectric sensor |
| Safety Hinge Switches | Inductive & Capacitive Sensor | Safety Rope Pull Switches |





SOLUTIONS FOR INDUSTRY

Solutions for Process Industry

Systems in Continuous Process plants are often operated for years together without stoppages. This also means that there is a constant need for expansion, modernization and rebuilding of these plants. Connectwell has a robust Product Lifecycle Management Program (PLM System) in place to address these challenges. Also specialized Terminal block solutions like the 8 Level Marshalling Terminal Block system enable System Integrators to ease out their Marshalling requirements.

Oil & Gas Production, Processing and Transport are extremely critical processes entailing harsh environmental conditions. Needless to say most of these installations are classified as Hazardous locations with different zone requirements. Connectwell has extensive product lines which meet and surpass requirements of the Hazardous Location environments. ATEX, IECEx, InMetro and AEx certifications of Terminal Blocks and Cable Glands product categories enable system builders in the Oil & Gas Industry to build compliant and efficient Electrical Control systems.

Solutions for Transportation Industry

Signaling systems are the backbone of safety systems deployed throughout the Rail Transportation network. Safe and Reliable Terminal block solutions are essential for the accurate functioning of these systems. Connectwell's highly reliable CX series Terminal blocks have been extensively used in advanced Signaling solutions. Most of these installations are subject to extreme weather and vibration conditions. Especially designed CX series Knife Disconnect Terminal Blocks have been in use for more than a decade in installations all across India and around the globe.

Electrical Installations within Trains demand strict adherence to regulations especially in the field of Fire Safety and Electrical Hazards. Connectwell uses materials compliant with EN45545 standards for flammability class which is an essential norm for ensuring human safety. Our PTB series heavy duty Terminal blocks are an ideal choice for heavy power connections in locomotives. CX Series pluggable terminal blocks facilitate quick harnessing solutions for lighting and information systems inside coaches.

SOLUTIONS FOR INDUSTRY

Solutions for Electrical Industry

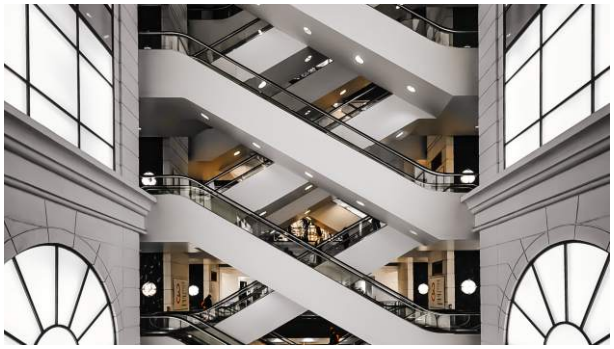
Worldwide Electrical grids, including their automation and communication technology, are being modernized and upgraded. Terminal Block solutions from Connectwell are enabling system builders in the field of Transmission and Distribution technology to further enhance their product offerings. An expanded product portfolio of Bolt / Stud Type Terminal Blocks gives Switchboard Panel designers more flexibility while adhering to stringent Utility specifications. Current Transformer Terminal blocks in different connection technologies ensures safe and reliable system testing and calibration.

Wind and Solar Power systems are reshaping the global landscape in Energy Generation. New product solutions from Connectwell enables plant operators and system builders to keep upto date with the rapidly changing standards. New CHV series 1500 VDC certified terminal blocks follow the latest IEC guidelines and are suitable for next generation large scale Solar Power plants and rooftop installations. Our line of Heavy Duty Connectors and CX series "Pluggable" Terminal Blocks offer quick and reliable solutions in Wind Power Installations.

Solutions for Manufacturing Industry

Machine and equipment builders are under constant pressures from rapidly changing market requirements. In order to respond to these quick changing scenarios, these industries rely on robust CAD systems in the field of Electrical Engineering. Connectwell products are listed on ECAD platforms like ePlan which is a standard design system deployed in most of these industries. The "Virtual Config" product configurator solution from Connectwell enables System Integrators to easily build DIN Rail configurations and get quick visualization in 3D with clear Bill of Materials for ordering. The advance CX Spring Clamp Terminals and the Next generation CP series Push In terminal blocks are an ideal choice for quick and hassle free installations and also offer maximum protection against vibrations.

Modern residential and commercial buildings deploy advanced control systems for efficiency gains. Connectwell's CX series Pluggable Terminal Blocks are an ideal choice for Elevator and Escalator manufacturers. They allow easy field connections within constrained environments like Elevator shafts. In the field of HVAC, the Classic CTS Series and the High Performance CY series Screw Clamp Terminal blocks with its broad product offering allows users to build optimum configurations. Heavy Duty connectors and CPS series conduits and its accessories are extensively used for cable harnessing solutions.



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