TECHNO
Modular Switchboard System
IPD Industrial Products is a leading distributor of a wide variety of low voltage electrical products for the Australian Industry.

With a highly skilled national sales force and dedicated product and engineering teams, IPD Industrial Products is able to offer a solution to match your needs.
ELSTEEL’s TECHNO Modular Switchboard System is the result of several years in research, development and testing to create a cost effective and easy to assemble system suited to meet the most demanding of applications.

TECHNO is a fully modular system that enables switchboard builders to assemble type-tested boards with user-friendly estimation & design software. Being truly modular, it offers absolute flexibility in switchboard construction enabling changes and modifications to be done easily with little cost impact.

IPD offers complementary training and accreditation to switchboard builders so that the end user is assured of receiving switchboards that comply with type test requirements. IPD also offers technical and engineering support nationally.

TECHNO is made by Elsteel with QA accreditation and international approvals with factories in Denmark, Poland and Sri Lanka.
FRAMEWORK

The framework is made up of:

- Base Corners
- Plinth Profiles
- Corners
- Corner Bars
- Crossbars

Structure members range from 200mm up to 2400mm.

The structure is made from 2mm cold rolled electrogalvanised powder coated steel profiles with tapped holes at every 25mm forming a 25mm grid.

Untapped holes are located at every 12.5mm.

The base profiles include pre-cut holes to facilitate lifting of the switchboard.

All structural members of the framework are screwed together with captive screws to ensure rigidity & earth continuity.

Modular indicators are provided at every 200mm for easy identification during assembly.
INTERNAL PLATES

Internal separation up to Form 4b can be achieved using standard parts -
- Mounting Plates
- Separation Plates
- Standard Compartments

Internal separation plates and mounting plates are modular, metallic and offer IP2X protection.

All internal parts are painted white.

FINISH:

Doors and covers are dished and made of 1.5mm mild steel with an epoxy polyester powder coated smooth finish.

2mm doors & covers are available on request

Flat covers are available as an option.

The framework and cladding is stocked in Grey RAL 7032 & Orange RAL 2000

Doors may be hinged left or right.

Degree of protection is to IP55
The busbar system is designed around 10mm wide flat bars and has been tested extensively for ratings up to 7100A / 100kA.

Busbars can be mounted at the top or bottom & can be arranged for front or back access.

The busbar holders have a unique clamping method that negates the need for drilling holes.

The holders are modular in size to suit all tier widths.

There are several types of busbar holders to suit various types of switchboard arrangements.
Connections from main horizontal to vertical busbars can be made using standard Horizontal-Vertical connectors or cylindrical copper spacers.

Connections to devices from dropper busbars are achieved using busbar tap-off sets. These connections may be of cable, flexible copper or solid copper bars.

A choice of fish plates allows busbar extensions & joints to be done easily.
COMPARTMENTS - FIXED TYPE

Compartments to FORM 3a, 3b & 4a are available in modular sizes from 400W x 200H x 200D up to 600W x 600H x 400D.

FORM 4b can be achieved using cable boxes.

Compartments are made up of 1.2mm mild steel, painted white and include mounting plates.

Larger size compartments are formed using separation plates.

Compartments come flat and are bent into shape using a simple bending tool.

Knock outs are included for incoming & outgoing connections.

INTERNAL ARC FAULT CONTAINMENT

TECHNO has been successfully tested for Internal Arcing Fault Containment in accordance with AS3439.1 Appendix EE.

Specially designed and tested filters allow the overpressure caused by ionisation of gases to escape out of the compartments through the top of the panel. This ensures total safety to operators along with reducing down times in the event of a fault.
Fully withdrawable compartments are available rated up to 630A.

Compartment sizes range from 200W x 200H x 400D up to 600W x 1000H x 400D mm.

Compartments provide 3 distinct positions - INSERTED, TEST/ISOLATED and FULLY WITHDRAWN with position indicators and padlocking features.

Earth contacts that make first and break last are provided as a safety feature. Main switch shaft interlocks and compartment interlocks are also provided for added safety.

Heavy duty stainless steel handles and mechanism offer years of reliable operation.

Internal segregation of up to Form 4b is maintained to ensure the highest level of material safety.

**DEMOUNTABLE UNITS**

Demountable cells are in all sizes from 400W x 200H up to 600W x 600H.

Earth contacts that make first and break last are provided.

Doors may be hinged to the structure or as an option, may be fixed to the demountable cell itself. The cell design suits outgoings to the left or right as needed.
SWITCHBOARD ACCESSORIES

A wide variety of accessories are available for the TECHNO system. These include:
- A choice of locks
- Internal doors & plates
- Tools
- Equipment mounting accessories

BLANK FRONT PLATES

ESCUTCHEON DOORS

CABLE HOLDERS

DOOR INTERLOCK

LOUVRE COVERS

TOOLS

SUPER FLEX INSERTS

144020 144021 144022 144023

144024 144025 144026 144027

144028 144029 144030

144031

DOOR CABLE HOLDERS

KEY LOCK

14501

KNOB LOCK
SPECIAL CONTROL UNITS

ELSTEEL MOTOR VISION

Features:
- Pre-programmed common starting methods
- Communications using Modbus / connection to any SCADA system
- Measure Current & Run Time
- Set temperature limits to switch off motors
- Measure air and terminal temperatures
- Display positions of Fully Withdrawable cells
- SMS Control Commands / status & alarms via mobile phones
- Options of HMI, PC or PLC’s

Elsteel MOTOR VISION is a simple low cost multi-function controller that provides motor starting and control functions with communications.

ELSTEEL TEMPERATURE VISION

Features:
- Continuous online measurement of temperature at any point in a switchboard
- Graphical view of temperature variations with history (data logger)
- Communicate to the external world using Modbus
- Connect to any SCADA system
- Temperature limit settings to automatically generate alarms
- SMS capability using Elsteel MESSAGE SUITE software.

Elsteel TEMPERATURE VISION is a cost effective and smart solution to provide online monitoring of temperatures within switchboards.
DESIGN & ESTIMATION SOFTWARE

The ELSTEEL PANEL DESIGNER is a revolutionary Windows based software program for designing switchboards of just about any size in only a matter of minutes. This software is very user friendly and allows boards to be designed and laid out quickly. Changes and modifications to designs are easily done.

The software provides switchboard layout drawings along with the TECHNO parts list. It can also provide a complete list of the electrical components selected for the switchboard.

ELCAD is an Auto Cad based software program used in the design & estimation of TECHNO switchboards. This software allows designers to generate isometric drawings along with parts lists.
Features:
Systems Design software for;
- Fault level / Volt Drop / Circuit impedance / cable and switchgear selection / backup and discrimination selection.

The latest version of GE’s “Selection Plus” software, which was designed & produced in Australia now offers the engineering consultant, switchboard manufacturers or electrical contractors a set of design tools to optimize the performance of a low voltage installation using GE equipment.

The new software now features the ability to;
1. Draw a single line diagram of the installation
2. Select and print the selectivity curves including user defined values including voltage reflection for comparing GE HV fuses and GE LV protective devices.
3. Temperature rise calculations for enclosures.
CONSTRUCTORS MANUAL

The CONSTRUCTORS MANUAL is a comprehensive guide in full colour that includes all TECHNO parts listed with part numbers, description, weights and pack quantities.

The manual also includes assembly pictures, technical specifications, selection guides, inspections and check lists necessary for consultants, engineers and switchboard builders.

ASSEMBLY INSTRUCTIONS MANUAL

The ASSEMBLY INSTRUCTIONS MANUAL provides step-by-step instructions on the assembly of TECHNO switchboards.

The manual provides precise assembly methods along with clear pictures and is a useful tool for switchboard builders, mainly for new users.
To ensure that TECHNO switchboards are built to standards and are in accordance with the type test requirements, IPD Industrial Products offers training and accreditation to switchboard builders.

There are 3 levels of accreditation with Level III being the highest.

IPD also offer technical and engineering support nationally to ensure that customers receive adequate assistance during design and assembly.

### MATERIAL SPECIFICATION

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Frame</strong></td>
<td>2mm mild steel powder coated in black (RAL 9005)</td>
</tr>
<tr>
<td><strong>Corners</strong></td>
<td>Aluminium die cast powder coated in grey (RAL 7032) or Orange (RAL2000)</td>
</tr>
<tr>
<td><strong>Corner Bar / Cross Bar</strong></td>
<td>Electro galvanised 2mm powder coated in grey (RAL 7032) or Orange (RAL2000)</td>
</tr>
<tr>
<td><strong>Doors / Covers</strong></td>
<td>Mild steel 1.5mm powder coated in grey (RAL 7032) or Orange (RAL2000); 2mm available as an option.</td>
</tr>
<tr>
<td><strong>Door Stabiliser</strong></td>
<td>Mild steel 20x20x1.5 square pipe powder coated in grey (RAL 7032) or Orange (RAL2000)</td>
</tr>
<tr>
<td><strong>Mounting Plate</strong></td>
<td>Mild steel 2mm powder coated in white (RAL 9010)</td>
</tr>
<tr>
<td><strong>Separation Plate</strong></td>
<td>Mild steel 1.2mm painted white (RAL 9010)</td>
</tr>
<tr>
<td><strong>Flat Cover</strong></td>
<td>Mild steel 1.5mm painted in grey (RAL 7032) or Orange (RAL2000)</td>
</tr>
<tr>
<td><strong>Panel Assembly Kit</strong></td>
<td>Mild steel 3mm zinc plated</td>
</tr>
<tr>
<td><strong>Cable Holder</strong></td>
<td>Mild steel 2mm painted white (RAL 9010)</td>
</tr>
<tr>
<td><strong>Lifting Eyes</strong></td>
<td>Mild steel 3mm powder coated in black (RAL 9005)</td>
</tr>
<tr>
<td><strong>Wall Mounting Brackets</strong></td>
<td>Mild steel 3mm powder coated</td>
</tr>
<tr>
<td><strong>Busbar Holder</strong></td>
<td>Self-extinguishing fibre material / reinforced PC</td>
</tr>
<tr>
<td><strong>Fish Plate</strong></td>
<td>Copper 10mm</td>
</tr>
<tr>
<td><strong>H to V Connectors</strong></td>
<td>Copper 10mm</td>
</tr>
<tr>
<td><strong>Busbar Tap-Off</strong></td>
<td>- 21000 Dia 10mm zinc plated</td>
</tr>
<tr>
<td></td>
<td>- 21010 Copper 5mm</td>
</tr>
<tr>
<td></td>
<td>- 21020 Copper 5mm</td>
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<tr>
<td></td>
<td>- 21030 M.S. 3mm zinc plated</td>
</tr>
<tr>
<td><strong>Bracket for Earth Conductor</strong></td>
<td>Mild steel 3mm zinc plated</td>
</tr>
<tr>
<td><strong>Copper Spacers</strong></td>
<td>Copper, 30mm diameter, 5 to 50mm in width</td>
</tr>
</tbody>
</table>
REFERENCES

TECHNO is used in over 30 countries around the world. Over the last few years, TECHNO has built up several impressive references. In Australia and New Zealand, hundreds of TECHNO Modular Switchboards have been supplied for every possible application.

AUSTRALIA & NEW ZEALAND

- Stadium Australia, Sydney
- Shortland Wastewater Treatment Plant, NSW
- M5 East Tunnel, NSW
- Parramata Rail Link, NSW
- Lane Cove Tunnel, NSW
- Westmead Hospital, NSW
- Parramata Police Centre, NSW
- Glennies Creek Coal Mine, NSW
- Campvale Pumping Station, NSW
- Bateau Bay Sewerage Treatment Plant, NSW
- Tamworth Hospital, NSW
- Citipower, VIC
- Eastlink Freeway, VIC
- Perth Mandurah Metro Rail, WA
- Playford Power Station, SA
- Western Mining Company, SA
- Festival Towers, QLD
- Brisbane Harbour Cruise Ship Terminal, QLD
- HMAS Waterhen, ADI
- Comalco, TAS
- Newmont Granite Gold Mine, NT
- Dreamworld Water Park, Gold Coast
- Telstra
- Woolworths
- Bluescope Steel
- Onesteel
REFERENCES

OVERSEAS

- Telecom, NZ
- Clandeboy Milk Dryer Facility, NZ
- Vodafone, NZ
- Superyachts, NZ
- Huntley Power Station, NZ
- Te Roha Waste Water Treatment Plant, NZ
- Norfolk Southern Cross Hospital, NZ
- Westlands Dairy, NZ
- New Zealand Post
- Watercare Services Ltd, NZ
- EDS, NZ
- Mighty River Power, NZ
- Hamilton City Council, NZ
- London Underground
- Heathrow Airport
- Hong Kong Airport
- Singapore Motor Train Lines
- New Delhi Metro, India
- Northern Telephones, China
- Norway Seafoods
- Cyprus International Airport
- Crowne Plaza Lebanon
- Siemens Germany
SCHEDULE OF TESTS

TECHNO has been extensively tested both overseas and in Australia. This is to ensure that the system is continually developing in keeping with the latest electrical standards.

<table>
<thead>
<tr>
<th>Test Performed</th>
<th>Testing Authority</th>
<th>Certificate Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full type test on 2500A TECHNO MODULE SYSTEM</td>
<td>IPH - Berlin</td>
<td>513.228.6.384</td>
</tr>
<tr>
<td>2. Full type test on 5000A TECHNO MODULE SYSTEM</td>
<td>IPH - Berlin</td>
<td>1513.08360.0.468</td>
</tr>
<tr>
<td>3. Temperature rise test and Short Circuit Withstand test for 2500A TECHNO MODULE SYSTEM</td>
<td>IPH - Berlin</td>
<td>170.265.2.230</td>
</tr>
<tr>
<td>4. Temperature Rise test and Short Circuit Withstand test for 3200A TECHNO MODULE SYSTEM</td>
<td>ASTA Certification Service</td>
<td>Certificate No: 12798</td>
</tr>
<tr>
<td>5. Temperature Rise test and Short Circuit Withstand test for 5000A TECHNO MODULE SYSTEM</td>
<td>ASTA Certification Service</td>
<td>Certificate No: 12890</td>
</tr>
<tr>
<td>6. Degree of Protection test (IP test) for TECHNO MODULE &amp; INSTANT PANEL SYSTEMS</td>
<td>DEMKO</td>
<td>10/92 - 298Th</td>
</tr>
<tr>
<td>7. Lloyd's Register of Shipping for all Elsteel parts</td>
<td>Lloyd's Register of Shipping</td>
<td></td>
</tr>
<tr>
<td>8. Standard Internal Arcing Fault test</td>
<td>Testing &amp; Certification Australia</td>
<td>100574</td>
</tr>
<tr>
<td>9. Short Circuit Strength Tests on outgoing Units in a TECHNO MODULE SYSTEM</td>
<td>Testing &amp; Certification Australia</td>
<td>107140-1</td>
</tr>
<tr>
<td>10. Vibration Testing of an Elsteel TECHNO MODULE SYSTEM</td>
<td>Vipac Engineers &amp; Scientists Ltd Australia</td>
<td>Report No: 302649-01</td>
</tr>
<tr>
<td>11. Vibration Testing of an Elsteel TECHNO MODULE SYSTEM</td>
<td>Vipac Engineers &amp; Scientists Ltd Australia</td>
<td>Report No: 302649-02</td>
</tr>
<tr>
<td>12. Short Circuit Strength Tests on outgoing units in a TECHNO CHASSIS SYSTEM</td>
<td>Testing &amp; Certification Australia</td>
<td>102014</td>
</tr>
<tr>
<td>13. Short Circuit Strength Tests on phase busbars in a TECHNO CHASSIS SYSTEM</td>
<td>Testing &amp; Certification Australia</td>
<td>102014</td>
</tr>
<tr>
<td>14. Full type test on 7100A TECHNO MODULE SYSTEM 100kA / 1S</td>
<td>IPH - Berlin</td>
<td>1819.1061.3.434</td>
</tr>
</tbody>
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