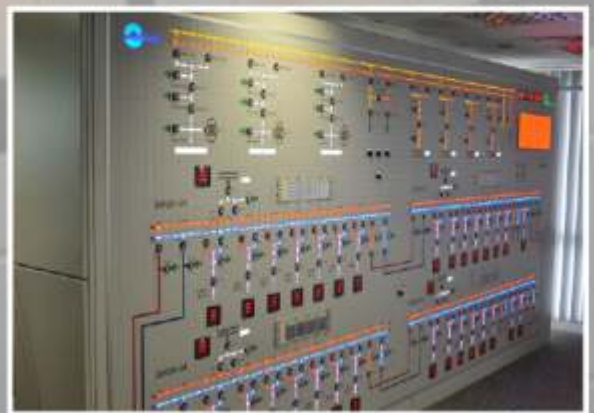
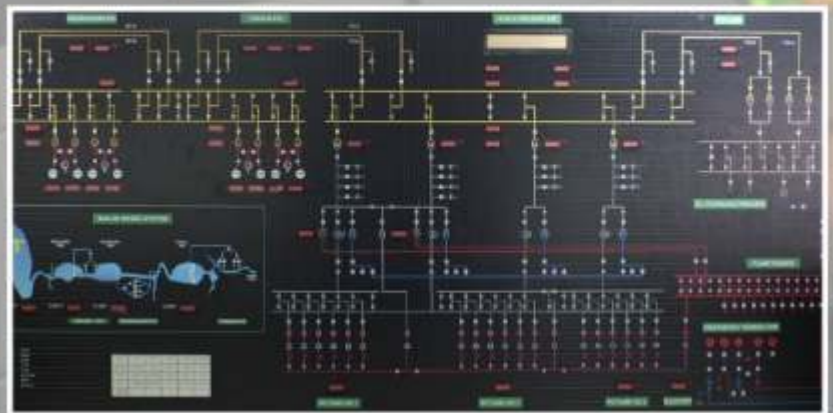
SCHLEGEL®
ELEKTROKONTAKT

Subklew®

Mosaic Mimic System





Subklew SM24 Mosaic Mimic System

The Subklew SM24 is widely acknowledged as the worlds leading Mosaic Mimic System.

The mosaic mimic system still provides the most cost effective solution for many 24/7/365 process control and visualization applications. Mosaic is well proven, providing a secure and robust engineered solution, giving total confidence to plant and control room operators. With minimal routine maintenance required, lifetime ownership costs are kept to a minimum.

"We understand all the component parts so you don't have to. From the narrowest brief, will deliver a complete mimic system. We can also offer a complete service including control panel solution. Our engineers will guide you through the whole journey from enquiry through to handover".

Our clients benefit from a programme of lifetime support that ensures their installation can be modified, extended or upgraded in line with their changing operational needs.

"The Subklew Mosaic Mimic System is still the best available and has maintained its engineering integrity in precision and quality since the day it was launched".

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The System - A Tour

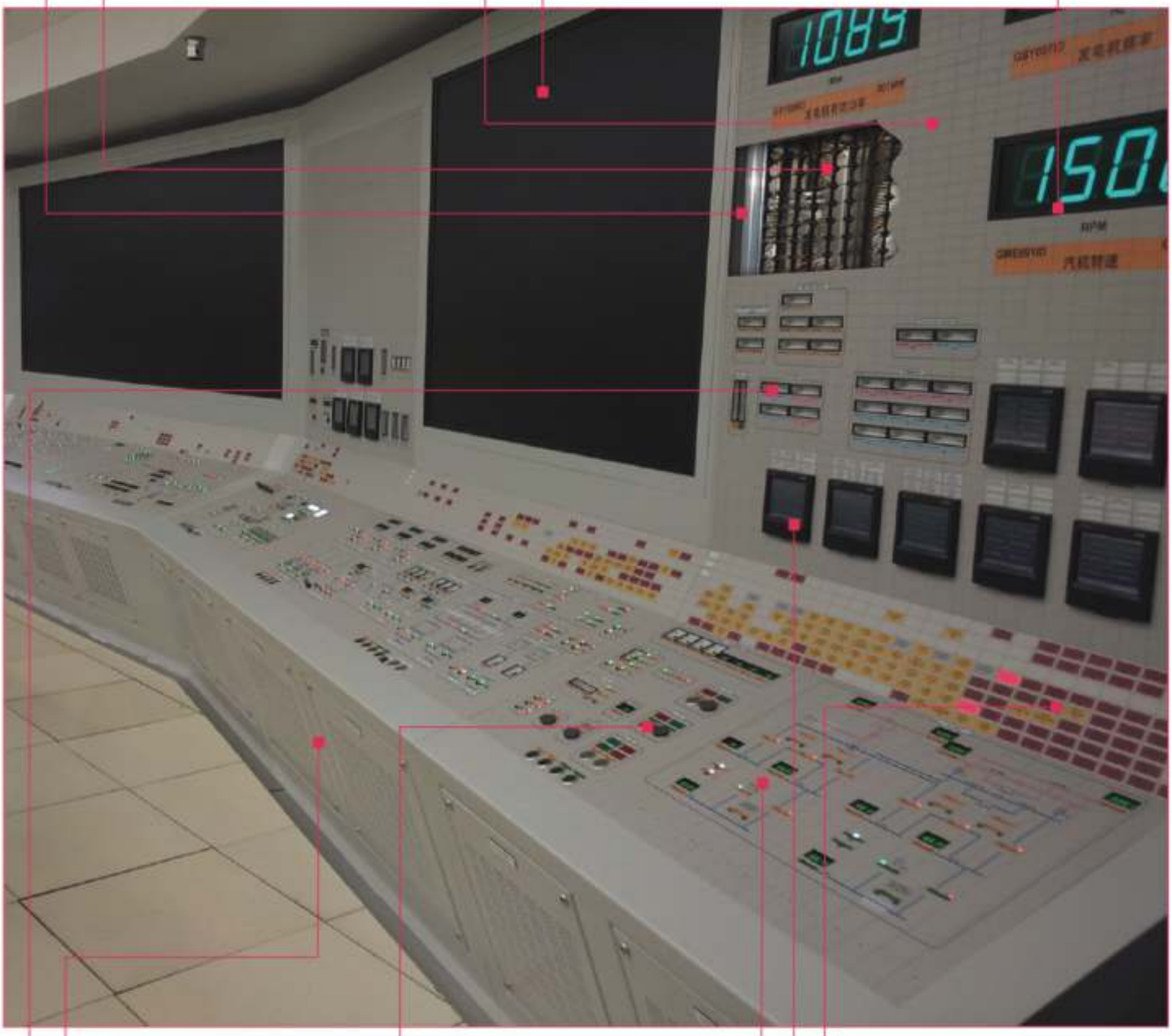
Framework
A strong aluminium extrusion provides an interface between the mosaic and the supporting steel work.

Mosaic Tiles
Tiles are made from colour stable, flame retardant, Makrolon® 6560.

Digital Panel Meters
These can provided in avariety of sizes and configurations to suit your project.

Grid
The Grid is made from precision cast electro galvanised zinc.

Display Screens
SCADA Display Screens can be incorporated to compliment the process diagram.



Panel Fabrication
Full design and build to meet your needs.

Control Devices
Push buttons, key switches, selector switches.

Annunciators Windows
Flush mounted and rear lit by LEDs, providing status and alarm indication of critical systems.

Moving Coil Meters
Can be provided in a variety of sizes and configurations to suit your project.

Graphic Capability
Engrave and fill or direct digital print.

Chart Recorders
Chart recorders can be fitted into the mosaic to compliment the process diagram.

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The System

The advantage of the mosaic system is its ability to be changed with minimum disruption to normal operations in the control room. Virtually any device may be incorporated into the grid/tile system to provide an unambiguous representation of the clients plant process.

Our engineers can take your single line diagrams and design brief to create CAD drawings, providing an accurate representation of the final product. For peace of mind, all manufacturing drawings would be submitted for approval purposes.

FRAME

There is a range of aluminium profiles to suit every fitting application.
The most suitable bezel will be selected to consolidate the mosaic system into the supporting panel metalwork.

GRID

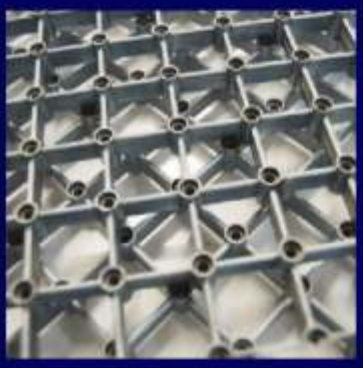
The supporting mosaic grids are made from electro galvanised, die cast, zinc aluminium alloy.

The grids are precision cast to provide support of the mosaic tiles and their components.
Mosaic grids are assembled to form the mimic structure and are consolidated via a perimeter extruded aluminium bezel.

High accuracy die cast grids characterise the Subklew system as being the market leader.

TILES

From 40/48mm square or larger for the rail industry, to 24mm square for process control we can provide the best mosaic system for your application.
Made from Makrolon 6560 with a UL94 Fire rating of V-0.
Tiles are available in the standard Subklew range, similar to RAL colours.



CONTROL PANEL

Mosaic Mimic systems are normally housed in a control panel or desk. We can provide the whole control panel unit including wiring and commissioning.

Panels are normally fabricated in mild steel, painted and then fitted out. All are made to CAD designs with CNC and Laser machinery operating in the production areas from Lantek nesting software.

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Control Devices

There is a vast array of switches, push buttons and key switches that can be fitted into the mosaic system. This gives an unrivalled choice and flexibility in control devices. Our engineers will select components to perform the functionality the clients' systems require.

EC RR105AAA12

EC RR105AAA13

Annunciators

In industrial process control, an annunciator panel is a system to alert operators of alarm conditions in the plant. In the Subklew SM24 Mosaic System, Multiple back-lit windows are provided, each engraved or printed with the name of a process alarm or action.

Produced as a highly accurate inset and flush mounted acrylic window, the annunciator window is back lit with longlife LEDs.

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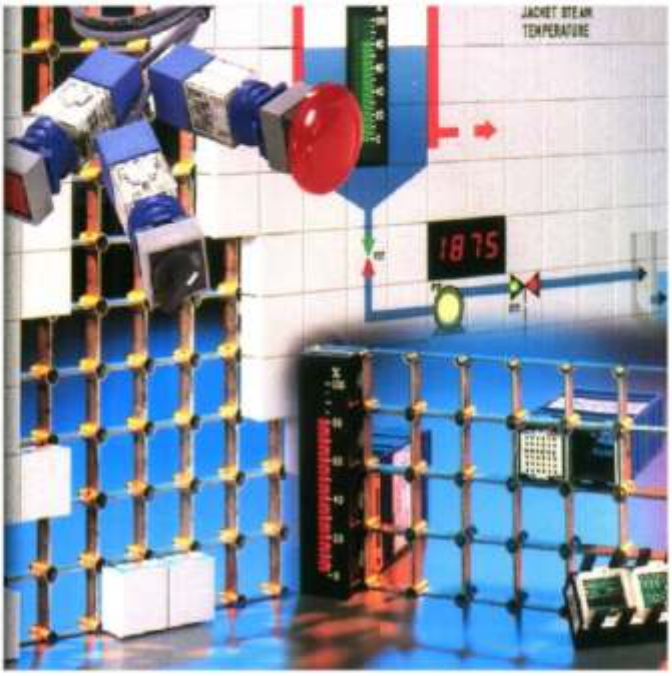
Mosaic Tiles Facia



The tiles are manufactured from **Makrolon polycarbonate**, moulded and fully dyed to provide a tile which

- a non-reflective surface
- non-flammable/self-extinguishing
- anti-static
- non-toxic
- halogen free (*)

standard background tile shades available in:

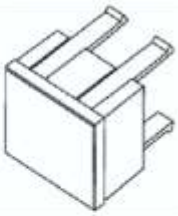
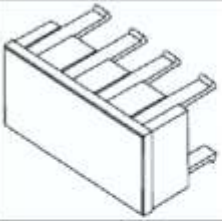
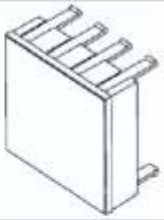
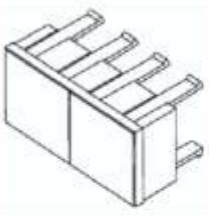
- RAL 7035 light grey
- RAL 6019 light pale green
- RAL 7016 anthracite
- RAL 1015 beige

  opal translucent white (for rear illumination of full tile area)

Features:

- ✓ Each 24x24 mm tile incorporates 4 legs designed to **clip securely to the grid**
- ✓ Slightly bevelled edge to **minimize the ingress of dirt** between the tile edges
- ✓ With a **body depth of 15 mm,** for the control and indication features of the system
- ✓ Available also in 48x48 mm and 48x24 mm, plain or simulated.
- ✓ Simulated tiles are moulded to give the appearance of a multiple of 24x24 mm tiles that can be used for large barrel switches/ industrial pushbuttons.
- ✓ Tiles can be **removed from the front** (without rear access) by using **extraction tool**
- ✓ No gaps are visible between adjacent tiles, or tiles and the outer aluminium frame.

Mosaic Tile Facia

ILLUSTRATION					
TILE SIZE	**24 x 24 mm**	**24 x 48 mm**	**48 x 48 mm**	**24 x 48 mm Simulated**	**48 x 48 mm Simulated**

- ✓ ***Colours available: Grey, Beige, Light Green and Anthracite***

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Mosaic Tile Specification

Material:	Makrolon 6560, a polycarbonate based on bisphenol
Dimension:	24x24mm, 24x48mm, 48x48mm +0/-0,1mm
Colour:	Standard range RAL 7035, RAL 6019, RAL 7016, RAL 1015
Odour:	Odourless
Melting range:	220° - 230°C
Softening point:	150° - 160°C
Density:	Approx. 1,2 g/cm³ (in accordance with DIN53479)
Solubility in water:	Insoluble
pH value:	Not applicable
Fire resistance:	To UL94 class V-O (1,6mm)
Flash point:	FIT > 450°C (ASTM-D 1929 B)
Ignition temperature:	SIT > 450°C (ASTM-D 1929 B)
Hazardous reactions:	No hazardous reaction observed

Mosaic Assemblies

GRID

- Made of aluminium die-casting alloys
- It is manufactured as a 24 x 12 tile matrix, i.e. 576mm x 288mm
- It can be constructed of any size
- It can be cut and joined to an adjacent casting at any 24mm grid intersection
- It can be cut at any point to provide an aperture for the mounting of **DIN** or **non-DIN** instruments
- Openings within the grid may be 'closed' by inserting and fixing an 'infill' grid section
- No special tools or jigs are necessary

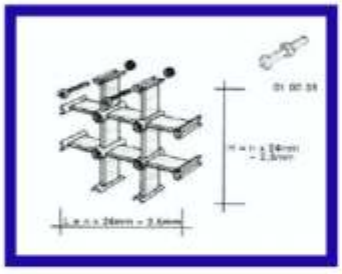
☑ Flat surface alignment of tiles is ensured within a tolerance of less than 0.1mm in height

FRAME

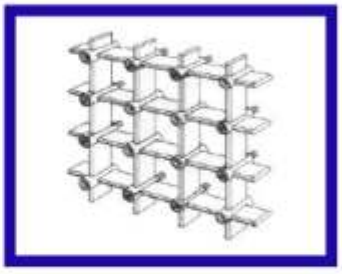
- Assembly would be framed within an aluminium bezel extrusion
- Normally silver anodized or to any specified colour upon request
- The bezel section accepts a range of mounting clamps designed for fixing mosaic assemblies of various sizes.
- To the rear of the matrix, **special aluminium extruded rails** are provided to secure the bezel and grid. It ensures a strong and rigid overall assembly.
- These extruded sections can accept a range of **captive nuts** at any position within their length and in each of 4 planes, to facilitate the mounting of terminal rails, instrument support rails, cable trunking, etc.

Grid Cut-outs

✓ **Cut-outs** for instruments and devices are prepared to permit easy subsequent closing by customer.
✓ Grid web thickness of 2mm is maintained



✓ **Insert Grid**
✓ Indicate nominal size of cut out when ordering.
✓ L = n x 24 mm
✓ H= n x 24 mm



✓ **Grid cut-out closed**
✓ Use junction screw and nut only where required.

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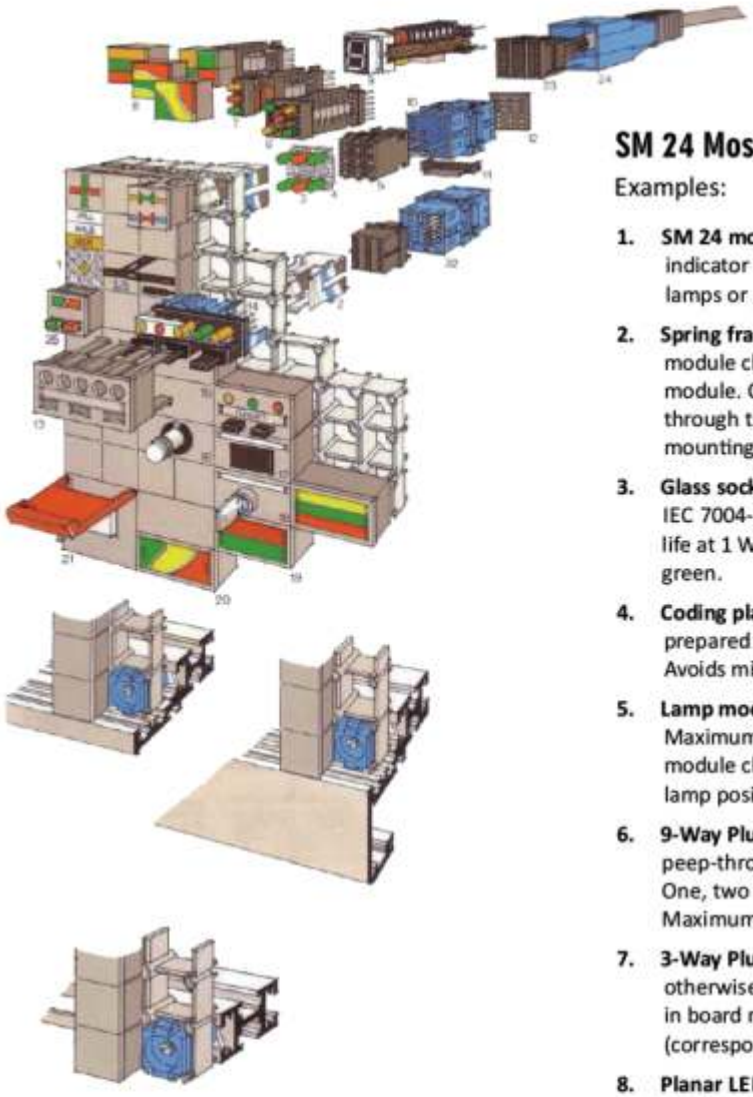
Aluminium constructional system

A newly developed aluminium constructional system can be used for a modular electrical and mechanical setup. This gives the Subklew mosaic tile system just the flexibility you need from the initial planning to final production.



Mimic Diagram

- Coloured symbolic tiles with engraved lines (contour engraving) ensure an outstading distinct identification (even in poor light or dust laden air).
- Engraved inscription
- Other mimic diagram representations on request.

Plug-in Modules SF 24/1

Main feature of the extended mosaic tile system is the large number of carefully matched elements and the information density afforded by a **24 plug-in module with 9-way indicator** unit for lamps, or peep through LEDs, LED large-area illumination, LCD technology or plug-in modules with

SM 24 Mosaic Technology

Examples:

1. **SM 24 module** with a maximum of 9 indicator positions for incandescent lamps or peep-through LEDs.
2. **Spring frame** to hold the SF 24/1 module chamber or the SF 24/2 plug-in module. Conveys the heat away through the metal grid. Encodes the mounting.
3. **Glass socket lamp** W 2 x 4.6 d under IEC 7004-94. High light yield and long life at 1 W power. White, yellow, red, green.
4. **Coding plate** for glass socket lamp, with prepared holes to define the positions. Avoids misinsertion.
5. **Lamp module** for 1, 2 or lamps. Maximum of 3 lamps modules per module chamber (corresponding to 9 lamp positions).
6. **9-Way Plug-in board module** for 5 mm peep-through LEDs, flat or domed. One, two or three colour LEDs. Maximum of 4 signals.
7. **3-Way Plug-in board module**, otherwise as Fig.6. Maximum of 3 plug-in board modules per module chamber (corresponding to 9 positions).
8. **Planar LEDs** 18 x 18, 18 x 9, 18 x 6 and 9 x 9 mm with plug-in board module, one colour for rear illuminating, 18 x 18 LED also three-colour, 18 x 6 one-colour.
9. **7-Segment displays.** Modular construction. IN red, green or yellow. Digit size 16 mm.
10. **SF 24/1 push-in module** chamber for lamp modules or plug-in LED board modules.
11. **Locking clip** for locking the lamp modules or plug-in LED board modules.
12. **Bus panel**, a plug-in panel for linking common connections.
13. **SMF 48 X 24 module** with maximum of 5 LEDs title box 42 x 6 mm and a maximum of 3 push-buttons or push switches.
14. **PCB panel** of Fig. 13 with LEDs, push-buttons, push rods, hybrid circuit, contact pins and insulating cap.
15. **SMF 48 x 24 module** with 3 LEDs, title box and 2 push buttons.
16. **SMF 48 x 24 module** with selector switch, changeover switch or multiple contact switch.
17. **SMF 48 x 24 module** with larger pushbutton, flat or raised (3 mm) with title box 42 x 3 mm.
18. **SMF 48 x 24 module** with key switch and coloured identification ring. Tile box 42 x 3 mm. Lock cylinder made by Kaba®.
19. **SMF 48 x 24 module** with 2 title boxes 42 x 9 mm, also can be illuminated with 36 x 9 mm planar LEDs, in one or two colours.
20. **SMF 48 X 24 module** with one title box 42 x 18 mm, also can illuminated with 36 X18 mm planar LEDs, in one, two or three colours.
21. **SMF 48 x 48 module** with emergency stop switch and red covering cap, 42 x 3 mm title box, which can be illuminated with 36 x 9 mm surface LED, in one or two colours.
22. **SF 24/2 connector module** for function modules, 1-18 contact positions.
23. **Connector housing**, 6-way or 18-way, for spring contacts with crimp connections.
24. **Connection cap** with strain relief.
25. **SM 24 S module** with one or two pushbuttons or push switches with flat LEDs 18 x 6 mm, in single or double colour, optional available with maximum 3 through-LEDs 5 mm round or square.

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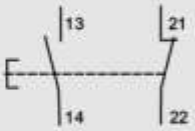
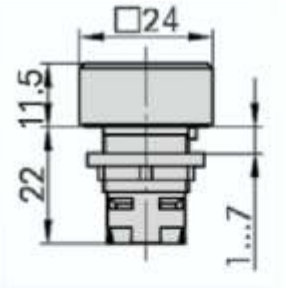
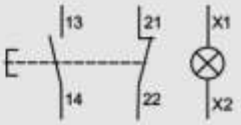
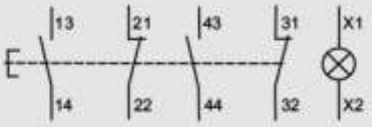
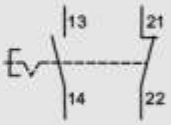
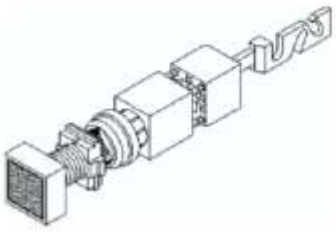
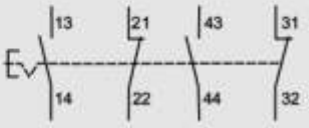
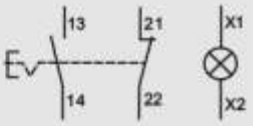
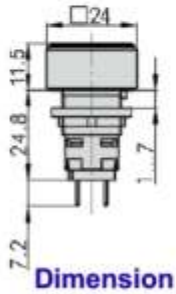
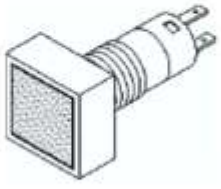
Complete Devices without wiring

*wiring available as optional

Illustration	Description		Part Number
	Push-button 1NO + 1NC		QXMT/*F113 * Lens Color: B = Blue R = Red C = Clear Y = Yellow G = Green Z = Black
	Push-button 2NO + 2NC		QXMT/*F114 * Lens Color: B = Blue R = Red C = Clear Y = Yellow G = Green Z = Black
	LED Illuminated Push-button 1NO + 1NC		QXMT/*F116L024 * Lens Color: B = Blue R = Red C = Clear Y = Yellow G = Green
Dimension	LED Illuminated Push-button 2NO + 2NC		QXMT/*F117L024 * Lens Color: B = Blue R = Red C = Clear Y = Yellow G = Green
	Push-button (latched) 1NO + 1NC		QXMT/*F101 * Lens Color: B = Blue R = Red C = Clear Y = Yellow G = Green Z = Black
	Push-button (latched) 2NO + 2NC		QXMT/*F102 * Lens Color: B = Blue R = Red C = Clear Y = Yellow G = Green Z = Black
Drawing	LED Illuminated Push-button (latched) 1NO + 1NC		QXMT/*F103L024 * Lens Color: B = Blue R = Red C = Clear Y = Yellow G = Green
	LED Illuminated Push-button (latched) 2NO + 2NC		QXMT/*F104L024 * Lens Color: B = Blue R = Red C = Clear Y = Yellow G = Green



Dimension



Drawing

Lamp Unit	QXML5/*F000L024 * Lens Color: B = Blue R = Red C = Clear G = Green	

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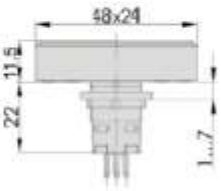
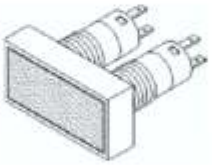
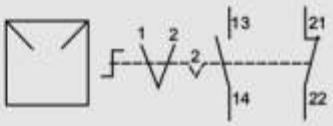
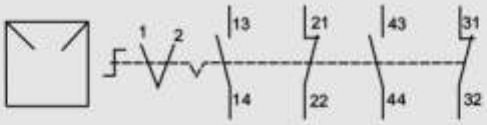
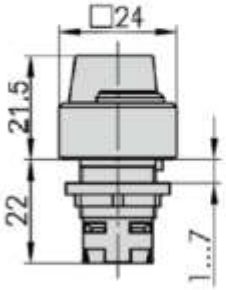
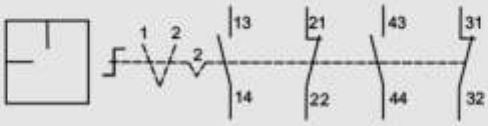
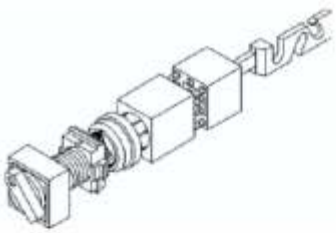
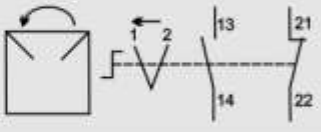
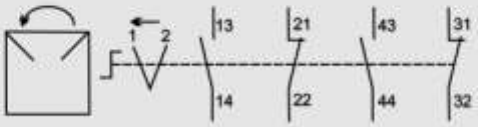
	 Dimension	 Drawing	***LED Lamp Unit***	**LXML5/*F000L024** ** Lens Color:* *B = Blue R = Red* *C = Clear* *G = Green*

	***Selector Switch***		**QXMWA/113**
	Selector Switch		**QXMWA/114**
 Dimension	***Selector Switch***		**QXMWA9/113**
	Selector Switch		**QXMWA9/114**
 Drawing	***Selector Switch***		**QXMWB/113**
	Selector Switch		**QXMWB/114**
	Selector Switch Momentary 1NO + 1NC (Spring return from Right to Left)		**QXMSTA/113**
	Selector Switch Momentary 2NO+ 2NC (Spring return from Right to Left)		**QXMSTA/114**

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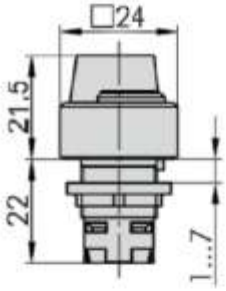
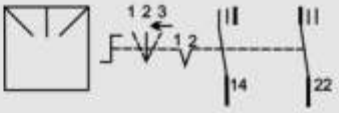
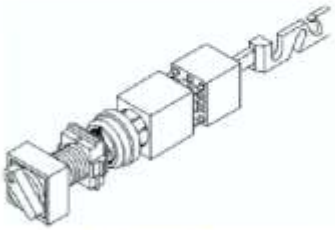
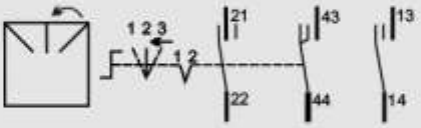
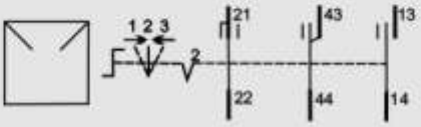
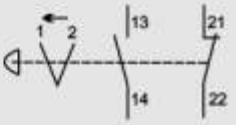
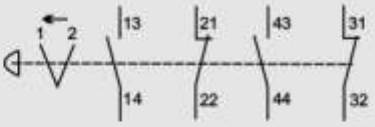
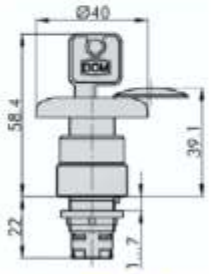
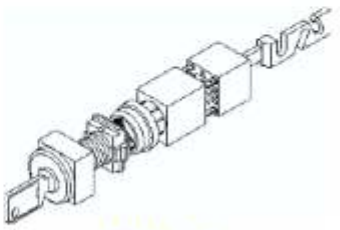
Complete Devices without wiring

*wiring available as optional

Illustration	Description		Part Number
	Selector Switch (Spring)		QXMSTB/113
	Selector Switch (Spring)		QXMSTB/114
 Dimension	Selector Switch (Spring Return from Left & Right to Centre)		QXMWC/113
	Selector Switch (Spring Return from Left & Right to Centre)		QXMWC/114
 Drawing	Selector Switch (Spring Return from Left & Right to Centre)		QXMWC/011
	Selector Switch (Spring Return from Left & Right to Centre)		QXMSTB/011
	Emergency Stop with Key Push-button		QXMVSCH/113
	Emergency Stop with Key Push-button		QXMVSCH/114

 Dimension

 Drawing

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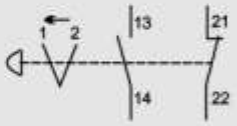
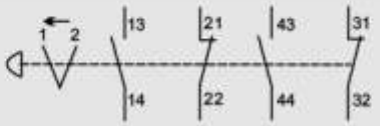
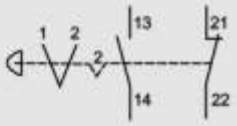
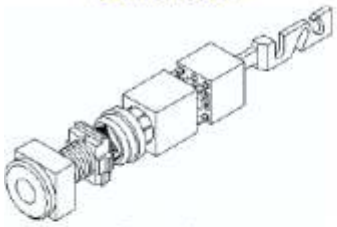
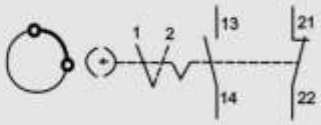
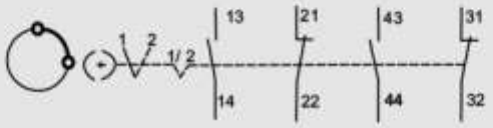
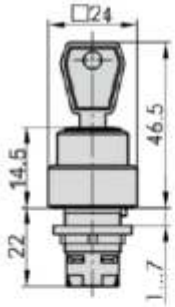
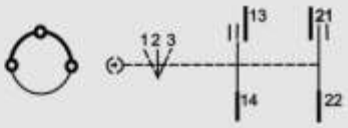
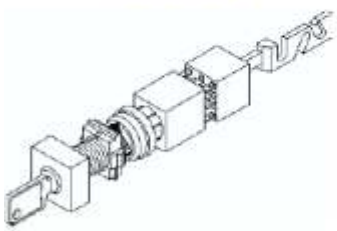
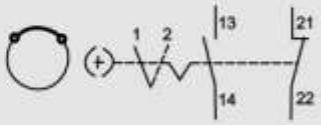
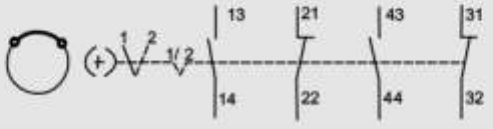
Complete Devices without wiring

*wiring available as optional

Illustration	Description		Part Number
	Emergency Stop Push-button		QXMS/113
 Dimension	Emergency Stop Push-button		QXMS/114
	Emergency Stop Push-button		QXMV/113
 Drawing	Emergency Stop Push-button		QXMV/114
	Key Switch (2 position) 1NO + 1NC		QXMSSA15E/113
	Key Switch (2 position) 2NO + 2NC		QXMSSA15E/114
 Dimension	Key Switch (3 position) 1NO + 1NC		QXMSSA12E/113
	Key Switch (3 position) 2NO + 2NC		QXMSSA12E/114
 Drawing	Key Switch (2 position) 1NO + 1NC		QXMSSA18E/113
	Key Switch (2 position) 2NO + 2NC		QXMSSA18E/114

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Accessories

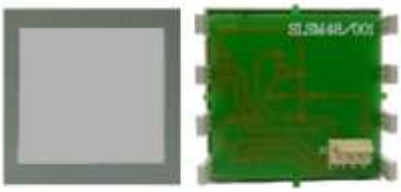
Spacing Plate & Fixing Ring
- use to fix & secure pushbuttons, switches & pilot lights onto grid

Part No: ST 703301-02

Tile Remover
- use to remove tiles

Part No: ST 701001

24 x 24 mm Tile with PCB LED 24V DC/AC
LED Diameter: 8 mm, diameter can be customized as per requirement



48 x 48 mm Tile PCB LED 24V DC/AC
LED Diameter can be customized as per requirement

LED Annunciator Light
Dimension: 30 x 30mm, 30 x 60mm, 40 x 40mm, 40x80mm
Light rating: 24 VDC, 20 mA
Control rating: 24, 110/125 VDC, 110/220 VAC

** LED Colour: G = Green, R = Red, W= White, Y= Yellow*
O = Orange, PW = Pure White

LED Lamp 24 VDC
option: 12 VDC available
** LED Colour: G = Green, O = Orange, W = White, Y = Yellow, R = Red*

Part No:
8 mm: KDKRE-08A-4*
10 mm: KDKRE-10A-4*
12 mm: KDKRE-12A-4*

LED Energy Analyzer
3P4W connections Measures the 55th voltage harmonics (L-N and L-L) Measure up to the 55th current harmonics. RS485 Modbus RTU Event logs (high voltage, low voltage, power failure, voltage imbalance, high current, current irregularity, THDV and THDI limits). Real time clock

Equipment for Nuclear Power Plant
- measurement and control
- customize operating voltage (12V, 24V, 110V, 220V)

LED Digital Clock Display
- display date (DD/MM/YY) and time (H:Min:Sec)
- customize operating voltage (12V, 24V, 110V, 220V)

LED Temperature Large Display
- measurement and control
- customize operating voltage (12V, 24V, 110V, 220V)

Panel Measuring Instrument
- measurement and control
- customize operating voltage (12V, 24V, 110V, 220V)

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