K-Chief 600 Marine Automation System
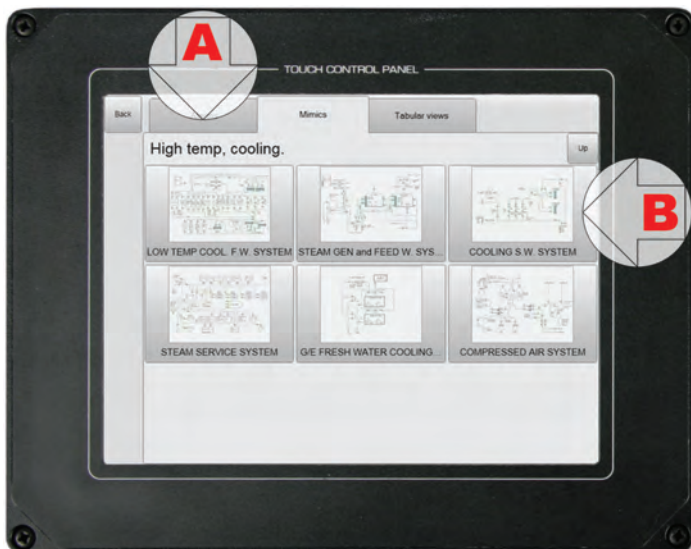## TCP Operator Panel

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The Touch Control Panel (TCP) is an 8.4 inch LCD touch screen panel. It is used to interact with the views on the colour monitor of the K-Chief 600 Operator Station. The Touch Control Panel is optional to include, but it makes the K-Chief 600 even more user-friendly.

The constantnly displayed view on the Touch Control Panel (TCP) is called the **Navigator**. The Navigator provides easy access to all K-Chief 600 system information and to the operator functions.

The TCP Navigator view is divided into separate function areas on a tabular form (→A). The following tabs are available:

- Alarms
- Process views
- Tabular views
- Custom views (optional)

The **Alarms** tab displays the last eight alarms present on various process views, and includes buttons for direct access to the relevant process view. New alarms in the system will automatically update the tab. The new alarm will always take focus, unless the operator selects another alarm

from the list.

The **Process views** tab gives access to all process views present in the K-Chief 600 system. For simpler systems, the process views are presented as thumbnails for direct access to each process view (→B). For more complex systems, the process views are grouped, and presented as alarm group buttons. When a button is pressed, a list of process views in the relevant group is shown for further navigation.

The **Tabular views** tab gives access to all alarm and event list views present in the K-Chief 600 system, such as the Alarm history view.

The **Custom views** tab can

be used to place additional custom defined favourite views for up to four users.

The touch activation force necessary is typically less than 100 g, and the expected life performance is more than 35 million touches without failure. Normally the tip of the finger is used, but a mechanical stylus or a gloved hand can also be used.

The TCP screen is anti-glare to reduce the reflective shine intensity. The screen is also dimmable, so it can be adjusted for use both during day and night.

The TCP frame is made of aluminium and stainless steel. The rear has several apertures to provide for sufficient ventilation.

The TCP is designed for various methods of installation, but is primarily intended for mounting into a console. It is mounted using four bolts, one in each corner of the frame.

Physical dimensions
- Width: 240 mm
- Height: 192 mm
- Depth: 67.5 mm
- Weight: 2.5 kg (approximately)

Power supply
- 24 Vdc (18 to 32 Vdc)

Power consumption
- Operating: 15 W (maximum)

TFT technology
- 8.4 inch viewable image size
- Active matrix, Thin Film Transistor (TFT)
- RGB vertical stripe

TFT characteristics
- Pixel number: 800 x 600
- Pixel pitch (RGB): 0.213 (H) x 0.213 mm (V)
- Response time: 30 ms (typical), "black" to "white"
- Contrast ratio: 320:1 (typical)
- Light intensity: 350 cd/m² (typical)

- Viewable angle: 80 degrees (left, right, down),45 degrees (up)
- Active display area: 70.4 (H) x 127.8 mm (V)
- Max colours: 262,144 colours (6-bit maximum)

Input signal terminals
- RGB (PC) signal: 15 pin mini D-Sub (female)
- DC power signal: 4-pole Weidmüller screw terminal
- Resistive touch screen: 1 x USB Type B connector
- PWM dimming: 2-pole Weidmüller screw terminal

Environmental conditions
- Operating:
  Temperature: -15 °C to +55 °C
  Humidity: Up to 95 %
- Storage:
  Temperature: -20 °C to +60 °C
  Humidity: Up to 95 %
- IP rating: EN60529 (IP66) (applies for flush mounting)

Synchronisation
- Video signal:
  Analogue RGB 0.7 Vp-p
  Input impedance 75 Ω
- Range:
  Horizontal: 31.5 kHz to 53.7 kHz
  Vertical: 60 Hz(*) to 85 Hz

Supported signal inputs
- Resolutions:
  VGA: 640 x 480
  SVGA: 800 x 600(*)

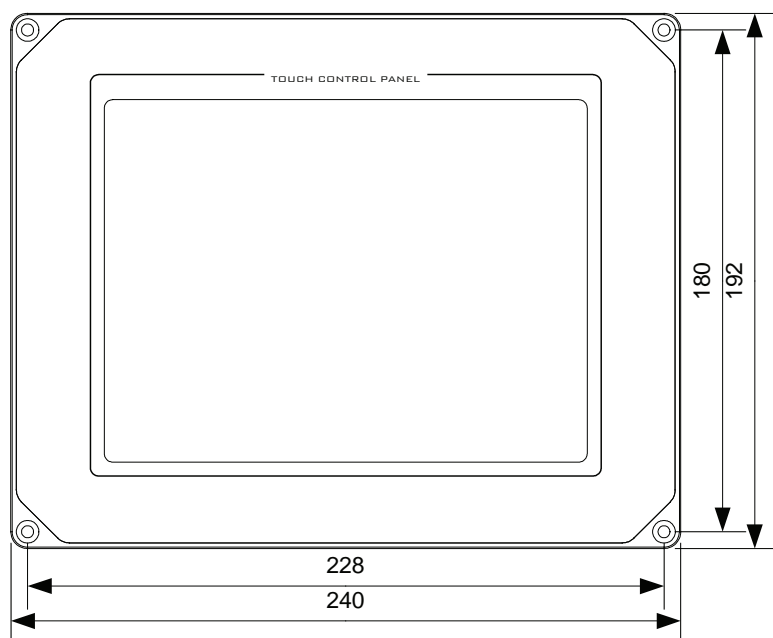(*) *Recommended for optimal picture quality*

Touch activation force
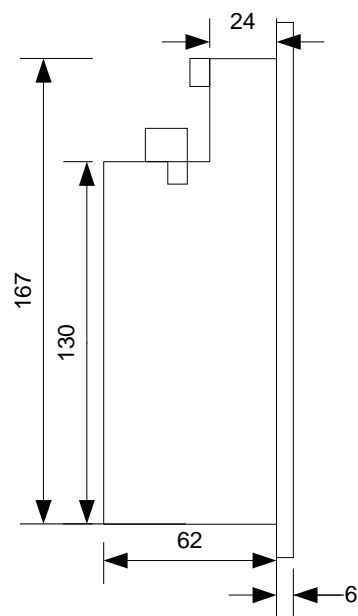- 80 to 113 g (typically)

Expected life performance
- More than 35 million touches in one location without failure

Type approval
DNV, ABS, BV, ClassNK, GL and LR

Front view

Side view

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