Levers and Panels

The K-Thrust Remote Control System (RCS) comprises one or more control positions that can be located in various positions on the Bridge and in the Engine Control Room (ECR).
At each control position there will be single levers with one Lever Panel each or dual levers with two Lever Panels each for the controlled thrusters, propulsion units and rudders together with a Utility Panel for vessel control system selection and transfer of command control responsibility between the control positions.

Features

Levers
- Single or dual manual lever

Lever panel
- RPC420 Panel Controller for each manual lever
- Emergency stop button protected from accidental operation by a clear plastic cover
- Combined operational status and power on lamp
- Ten configurable, colour-coded, system and operational status lamps with customised text
- Twelve configurable, function buttons with status lamps

Utility Panel
- Six control system (mode) selection buttons with status lamps
- Six configurable, colour-coded, system and operational status lamps with customised text
- Command transfer button
- Audible alarm silence button
- Lamp test button
- A panel dimming control

Description

Lever panels are self-contained units designed for flush mounting in a Control Position panel or bridge console.
The RPC420 panel controller provides the interface between all devices within the Control Position, i.e. Levers, Lever Panels, Utility Panel and Indicator instruments.
The RPC420 also provides the interface to the Thruster Controller via the Lever Communication Link (LCL).

The Utility Panel is a common panel for connection of up to twelve lever panels. It contains common buttons and lamps for controlling the one control position and is mounted in the control position panel.
## Standards Applied
- EN 60945 Marine navigation and radio communication equipment and systems - General requirements: Methods of testing and required tests.
- IACS E10 Unified environmental test specification for testing procedures for electrical, control and instrumentation equipment, marine computers and peripherals covered by classification.

## CE Marking
The Levers, Lever Panel and Utility Panel conform to the relevant EU directives.

## Type Approval
The Levers, Lever Panel and Utility Panel are designed for type approval by:
- Det Norske Veritas (DNV)
- The American Bureau of Shipping (ABS)

## Dimensions
### Levers
- **Console Plate:** 96 x 96 mm
- **Height:** 55 to 120 mm above the console plate
- **Depth:** 100 to 150 mm below the console plate
- **Weight:** 0.55 to 2.70 kg

### Lever Panel
- **Height:** 50.9 mm plus 5 mm for wiring
- **Width:** 162 mm
- **Depth:** 104 mm
- **Weight:** 0.45 kg

### Utility Panel
- **Height:** 69.2 plus 22 mm for dim knob and panel plate
- **Width:** 167 mm
- **Depth:** 104 mm
- **Weight:** 0.55 kg

### RPC420
- **Height:** 5 mm
- **Width:** 130 mm
- **Depth:** 180 mm
- **Weight:** 0.60 kg

## Electrical
### Lever Panel
- **Input voltage:** 24 V DC (from RPC420)
- **Current consumption:** 250 mA maximum
- **Power consumption:** 6 W maximum

### Utility Panel
- **Input voltage:** 24 V DC dual input
- **Current consumption:** 200 mA
- **Power consumption:** 5 W

### RPC420
- **Input voltage:** 24 V DC
- **Current consumption:** 1.1 A at 18 V DC
- **Power consumption:** 20 W

## Environmental Specifications
### All Panels
- **Ambient temperature**
  - **Operational:** -15° C to 55° C
  - **Storage:** -25° C to 70° C
- **Ambient humidity**
  - **Operational:** up to 100 % RH
  - **Storage:** up to 100 % RH

### RPC420
- **Ambient temperature**
  - **Operational:** -15° C to 70° C
  - **Storage:** -25° C to 70° C
- **Ambient humidity**
  - **Operational:** 96 % RH non-condensing
  - **Storage:** 96 % RH non-condensing

## Panel Specifications
### All Panels
- **Material:** Aluminium/Polyester Plastic
- **Protection standard:** IP 22
- **EMC according to:** EN 60945
- **Colour:** black, RAL 9005

## Article Numbers
- Levers: Depends on type
- Lever Panel: 316986
- Utility Panel: 316987
- RPC420: 317114