



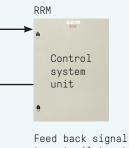
KONGSBERG STEERING GEAR

Interface to external equipment

INTERFACE TO DIGITAL AUTOPILOT, SINGLE RUDDER ONLY

Order signals (port/stbd) (voltage free switching contacts)

Take over confirmation (if required) (voltage free contact)



RRM

.

to autopilot not provided by RRM

INTERFACE TO ANALOGUE AUTOPILOT

Galvanic isolated +/-10VDC order signal, one for each rudder (+ = port / - = stbd)

One take over confirmation (if required) (voltage free contact) unit(s)

Feed back signal(s)
to autopilot not
provided by RRM

Control

system

INTERFACE TO SHIP'S MAIN ALARM SYSTEM

Typical outputs to ship's main alarm system
• One common steering gear failure alarm
 (Voltage free contact)

Outputs (each pump) on RS422 NMEA text transmission

- Overload
- Phase failure
- Power failure pump
- Power failure control
- Power failure aux. steering
- Low oil level
- Hydraulic lock
- Clogged filter (LRS)



RRM

Alarm panel in ECR

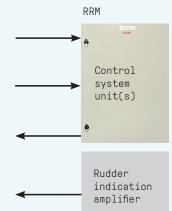
INTERFACE TO ANALOGUE JOYSTICK

Voltage free take over contact (one for each rudder)

Galvanic isolated +/-10VDC order signal, one for each rudder (+ = port / - = stbd)

Voltage free ready signal (one for each rudder) (run and take over confirmation)

Galvanic isolated +/-10VDC rudder position signal (one for each rudder)



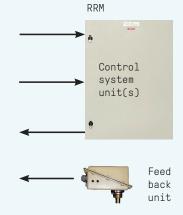
INTERFACE TO ANALOGUE DYNAMIC POSITION SYSTEM (DP)

Voltage free take over contact (one for each rudder)

Galvanic isolated +/-10VDC order signal, one for each rudder (+ = port / - = stbd)

Voltage free ready signal (one for each rudder) (run and take over confirmation)

Potentiometer (5k) rudder position signal (one for each rudder)



INTERFACE TO VOYAGE DATA RECORDER (VDR)

Alarm outputs on RS422 NMEA text transmission

- Overload
- Phase failure
- Power failure pump
- Power failure control
- Low oil level

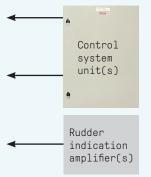
Voltage free pump running contacts (one for each rudder)

Galvanic isolated +/-10VDC order signal, (one for each rudder) and/or on/off rudder order signal (NFU) (on/off signal also include emergency steering)

Galvanic isolated +/-10VDC rudder position signal (one for each rudder)



Alarm panel on the bridge





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