

Robinson Dry Dock - List of removed I/O's	REV.0
Description	Remarks
Pump 1 & 2 Motor Red Winding Temperature Element	Winding temp sensors reduced to one per winding. No change in control, monitoring or protection. Redundancy reduced.
Pump 1 & 2 Motor White Winding Temperature Element	
Pump 1 & 2 Motor Blue Winding Temperature Element	
Pump 1 & 2 Pump Bearing NDE Temperature Element	Pump does not have bearings. Only the two motor bearings present that will be monitored for temp.
Pump 1 & 2 Pump Bearing DE Temperature Element	
Pump 1 & 2 Pump Case Temperature Element	Pump is submerged, case temp sensor not needed, winding temp will detect any excess heat.
Pump 1 & 2 Ambient Temperature Element	This was originally included to link to ventilation system, not needed with submerged pumps as well as ventilation system removed.
Pump 1 Pump Bearing NDE Vibration Element	Pump does not have bearings. Only the two motor bearings present that will be monitored for vibration.
Pump 1 Pump Bearing DE Vibration Element	
Pump 3 & 4 Motor Red Winding Temperature Element	Not needed and not normally provided on a 15kW motor. Motor case temp sensor will be sufficient. Is also not part of the specification.
Pump 3 & 4 Motor White Winding Temperature Element	
Pump 3 & 4 Motor Blue Winding Temperature Element	
Pump 3 & 4 Motor Red Winding Temperature Element	
Pump 3 & 4 Motor White Winding Temperature Element	
Pump 3 & 4 Motor Blue Winding Temperature Element	
Pump 3 & 4 Pump Bearing NDE Temperature Transmitter	The pump NDE bearing is situated at the bottom of the suction tube. Very difficult to install sensors to this bearing. Monitoring the DE bearing should be sufficient.
Pump 3 & 4 Ambient Temperature Transmitter	This was originally included to link to ventilation system, ventilation system has been removed.
Pump 3 & 4 Pump Bearing NDE Vibration Element	The pump NDE bearing is situated at the bottom of the suction tube. Very difficult to install sensors to this bearing. Monitoring the DE bearing should be sufficient.
Seepage Pump 5 Ingress Protection	Digital input.
West Side Main Filling Valve	Changed to Profibus communication
Dock Drainage Valve 1	Changed to Profibus communication
Drainage Pump 3 run hours	SCADA run hour log to be used
Drainage Pump 4 run hours	SCADA run hour log to be used
Main Pump 1 & 2 Delivery Isolation Valve set point	Valves will either be opened or closed fully, no need for set point for partial opening.
Drainage Pump 3 & 4 Delivery Isolation Valve set point	
Pump 1 & 2 Water in Oil Sensor	Changed to float switch monitoring water/oil ingress to motor