

MARINE LOADING ARM INTELLIGENT CONTROL SYSTEM



Hydraulic Power Unit (HPU)

Hydraulic Power Unit (HPU) includes hydraulic oil tank, filters, 2x 100% sets electric driven pumps, 2x 100% motors, manual emergency back pressure transmitter, solenoid valves, pressure release valve, pressure up pump or pneumatic pump, temperature transmitter, oil level relay, gauge and others.

Accumulator for retracting all the arms into stowed position (for LNG MLA) or rising all the arms automatically and simultaneously by approximately 2m after PERC emergency release.

Hydraulic Valve Block (HVB)

The hydraulic valve block (HVB) is installed at the bottom of the loading arm, and mainly includes solenoid valve, ball valve, throttle valve, and accumulator. By switching different oil circuits, it can provide power for each actuator of the loading and unloading arm. The accumulator can be used as an emergency power source for the ERS when the power is lost, so as to prevent further damage to the ship and shore equipment.



Local Control Panel (LCP)

The CCLPEC MLA has several control methods:

1. By buttons and switches on local control cabinet, which is installed on dock.
2. By wired controller at triple swivel assembly or at local control cabinet, when it is close to manifold flange.
3. By wireless remote controller at any place within 100m around LCP.
4. By manual lever in hydraulic substation at the root of MLA riser column.

Intelligent control of safe operation and maintenance system

The intelligent monitoring system includes not only the constant position monitoring system (CPMS), but it is a set of integrated solutions designed to proceed comprehensive statistical analysis for the operation data of key components and the complete equipment. Through its interface, a variety of visualization functions are realized, including global visualization, local visualization, operation visualization, real-time data visualization, and seamless connection with third-party applications. This intelligent monitoring system not only enables the operator to know the status and performance of the marine loading arm in real time, but also provides timely alarms and notifications in case of failure or abnormal conditions, thus ensuring the safe and efficient operation of the loading process.

