



DRAULICS



**SMART PU — Tender Lift
machine management**

SMART PU TEL MACHINE MANAGEMENT



Hydronit patented SMART POWER UNIT technology offers to manufacturers a one-stop-shop solution for Hydraulic TENDER Lift. It allows synchronised movement of independent lifting cylinders. The Built In Electronic Controller full manages the hydraulic circuit by reading length sensor of the cylinders. Optional sensor allows tidal compensation of the boat where the system is installed.

The solution consist of:

- SMART POWER UNIT
 - Hydraulic power pack with valves
 - Embedded SIL 2 programmable PLC
 - Embedded Sensors (see data sheet)
 - WiFi - CAN - Ethernet
- 4 KEYS CAN-BUS keyboard
- touchscreen display (optional) for control diagnostic and maintenance
- roll/pitch sensor (optional)
- WI-FI for APP connection (optional)

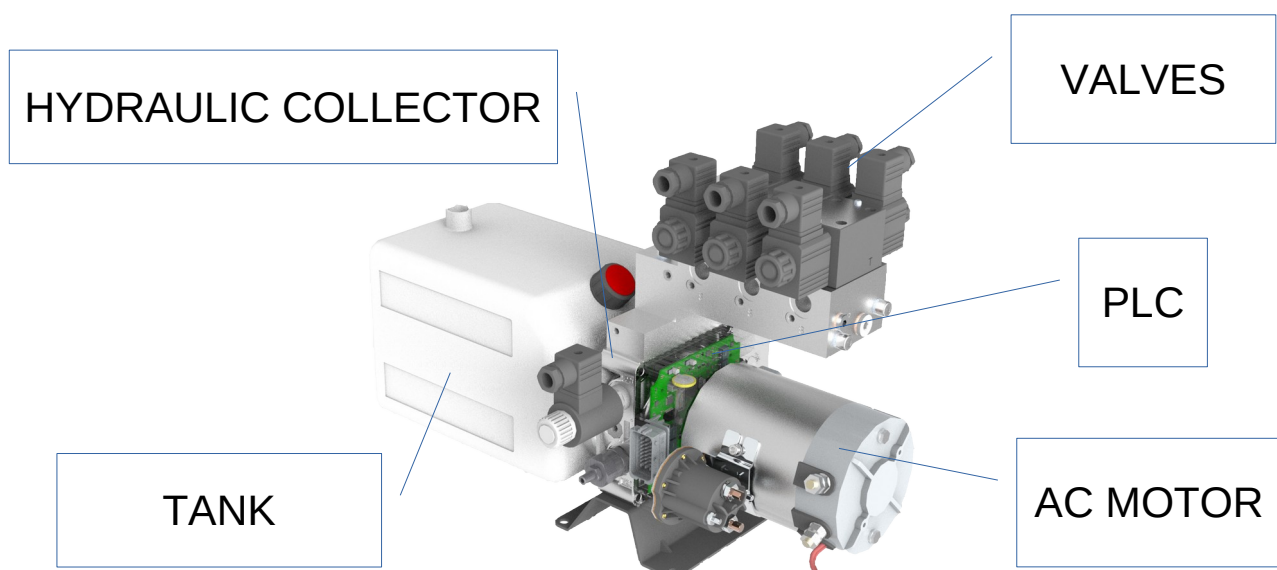
Requires:

- Length sensors on each cylinder
- Counterbalance valves



Example of tenderlift platform

The SMART POWER UNIT is programmable by CoDeSys  for further customisation required.



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Our solution drives 2 cylinders not mechanically linked in rigid architecture: assembly cost of the tenderlift are consequently reduced.

The system utilises length sensor of each cylinder to synchronise and eventually robotised motion of the lifting machine. Individual movement are allowed as well as unaligned but synchronised movements.

The system acts on two cylinders:

The master cylinder is managed in a speed control.
The slave cylinder is managed in a position control.

Both master and slave cylinders are equipped with a position sensor which determines the actual platform height.

Electronic built-in the Hydraulic Power Pack manages the cycle (lifting lowering of the master cylinder and optionals) and the "synchronisation" of the platforms through an electronic control. Safe Working Load (SWL) function is allowed by readings of the pressure of the cylinders.

Marker LED can be controlled by the SPU.

The Electric cabinet just need Isolator Switch, emergency button and 24DC powersupply: NO additional protections since they are embedded in SMART POWER UNIT.

Operator Safety is granted by a SIL 2 (safety integrity level) as per EN61508 for or PI c as per EN13849 compliant electrohydraulic architecture.

WI-FI

The Smart Power Unit has WI-FI connection: an optional MQTT function enables the control of the tenderlift by means of a customisable APP for smartphone / tablet.

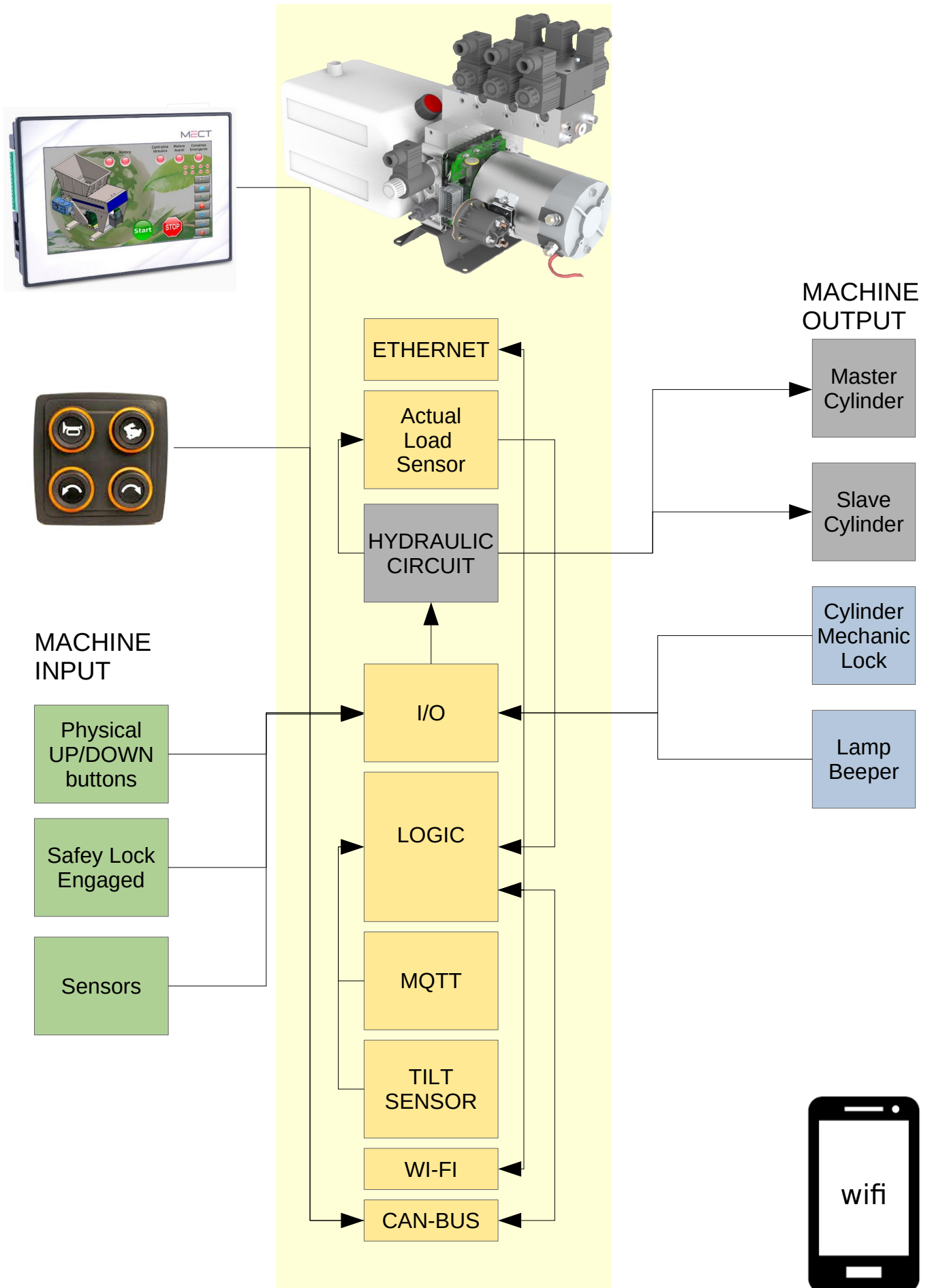
HMI (optional):

The machine can be completed by a colour touchscreen in the size of 4.3" or 7" display which is connected to the SMART PU through CAN BUS. Our Touchscreens are programmable through a proprietary IDE based on QT which is open-source.

Alternatively a CAN BUS keyboard allow the lift/lower operations.

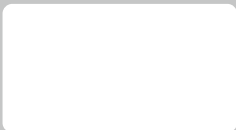


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sales@hydronit.com (English, French, Spanish)
export@hydronit.com (English, Russian, Polish, German)
vendite@hydronit.com (Italian)

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Hydronit communicates with paper from certified sources

Hydronit Srl
via Pastrengo 62
20814 Varedo (MB), Italy

☎: +39 0362 1841 210

+39 0232 0625 145

📠: +39 0362 1841 214

@: info@hydronit.com

www.minipowerpacks.com

www.hydronit.com



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