



Power Transformer Unit

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The Power Transformer Unit (PTU) is a subsea transformer that transforms the supply voltage and routes Ethernet signals.

It has three multi tap toroid transformers, one for each phase, transforming the voltage from 990 VAC to 440 VAC and 230 VAC.

The unit is oil filled and pressure compensated by an external compensator. It is fitted with temperature and water ingress sensors for monitoring.

PTU is designed for being submerged in seawater at a sea depth of 3000 meter, but is also usable in harsh topside applications due to cooling ribs on the main body.

Key features

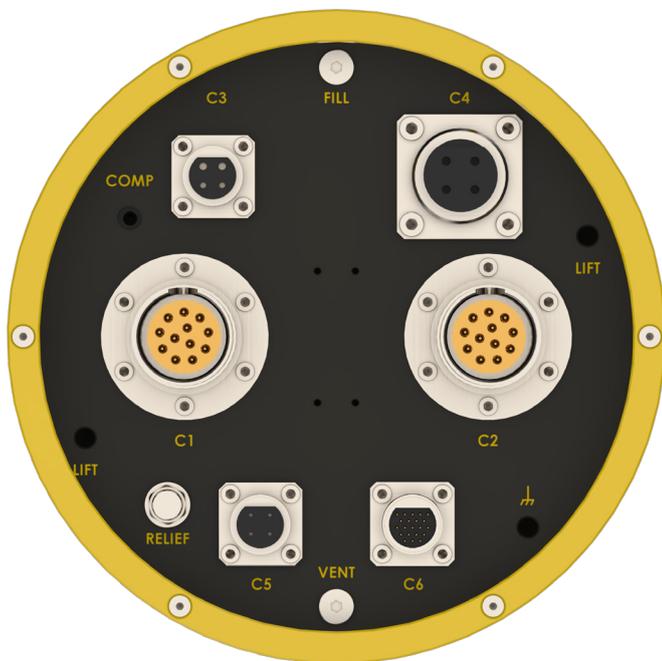
- 3 multi tap toroid transformers
- Temperature and water ingress sensors
- Designed for 3000 m water depth
- Cooling ribs on main body
- Field proven

ENVIRONMENTAL DATA

Design life (maintainable):	20 years
Design temperature range:	-18 °C to 40 °C
Operation temperature range:	-18 °C to 40 °C
Storage temperature range: (storage temperature above 0 °C is preferred)	-18 °C to 50 °C
Water depth rating:	3000 msw

MATERIALS, DIMENSIONS AND WEIGHT

Diameter:	340 mm
Length (excl. electrical connectors):	485 mm
Weight in air (incl. transformer oil):	185 kg
Weight in water (estimated):	140 kg
Material:	AISI316 - Xylan RAL1004 coated
Lifting RUD eye bolts:	M12 bolts
Bonding Point:	1 off M12
Lid jacking bolts:	3 off M6



ELECTRICAL

Inputs:

- C1 / C2: 990 VAC 50 / 60 Hz 3 phase

Power outputs:

- C4: 440 VAC 3 phase, rated power 11 kVa
- C5: 230 VAC 3 phase, rated power 2,5 kVa

Sensors:

- Water alarm probe
- Temperature sensor PT100

Ethernet passthrough: From C1 / C2 to C6
(C6 has two individual Eth. channels)

XMT P & S passthrough: From C1 / C2 to C3
(C3 has only one channel, and signal from C1 and C2 are
combined into a single output)

COMPENSATION SYSTEM

Oil volume:	18 liters
Recommended compensator volume:	2,5 liters
Relief valve cracking pressure:	1,0 bar
Charge volume @20 °C:	66 %
Oil grade:	Mobil DTE 10 Excel 15
Compensator port:	3/8" Autoclave
Vent port:	1/4" BSP plug
Fill port:	1/4" BSP plug