

TECHCROSS

Alternative Maritime Power System

A vessel at port can still emit pollutants having harmful effects on air and water as long as its engine is on. To tackle this issue, vessels in California are required to keep engines off and use alternative maritime power from the shore after the adoption of Shoreside Power Regulations in December 2007 by CARB (California Air Resources Board). This change has accelerated movements to protect the marine environment, and the vessels recommended for use AMP have increased accordingly. (IEC/IEEE/ISO 8005-1-2019, European Green Deal)

As the global No. 1 BWMS maker, Techcross, verified by thousands of references with installation, commissioning, maintenance and AS services all over the world, plans to provide optimal service complying with environmental regulations to clients. In addition, Techcross successfully manages its global network including overseas branches and agencies who can supply materials and offer services promptly, and has capabilities to design and producing products reliably. Techcross' accumulated know-how and technology over the years will help clients the best satisfaction even in AMP industry.

Why TECHCROSS?

One-stop service

- Saving cost
- Short lead time
- Easy correspondence

Reliable experiences in maritime industry

- Regardless of vessel type, retrofit
- Abundant installation references
- Well trained in-house manpower

Compliance with environmental regulations

- Reducing CAPEX
- Priority pass in ports
- Saving port tariffs and time

Global network for agile services

- Global distribution network
- Overseas branches in strategic bases
- A/S service experts around the world



Composition



Cable Reel

Facilitating power connections between onshore sources and ships, this electric cable is designed for direct ship installation or convenient pull for onshore use.

Size	W 2,510 X D 4,550 X H 2,390mm
Weight	Approx. 5,000 kg
Elec motor with encoder	3.7kW, 440V, 60Hz, 4P
Multi mode	12 core, 40 turn
Degree of protection	IP 55
Reeling cable	185, 120sq
Plug & Socket	Protection / 3PX5



Socket Box

Equipment for receiving and utilizing high-voltage power from land on a ship.

Size	W 980 X D 750 X H 1,100mm
Weight	Approx. 200 kg
Rated voltage	7.2kV
Rated current	Max 700A
Material	Stainless Steel (SUS 316)
Degree of protection	IP 66
Plug & Socket	AC 230V, 200W



Transformer

Equipment that steps down high-voltage from land power supplies to a ship-compatible low-voltage.

Size	W 2,150 X D 1,650 X H 2,350mm
Weight	Approx. 5,200 kg
Phase, Frequency	3ph, 60Hz
Rated capacity	2.5 MVA
Rated voltage	6,600 / 440V
Temperature class	F
Degree of protection	IP 23
Winding material	Aluminum



6.6kV/11kV Shore Connection Panel

Equipment for connecting land-based high-voltage cables to the ship's power system, featuring synchronization and stabilization to prevent overburdening of the main power system.

Size	W 1,800 X D 2,680 X H 2,200mm
Weight	Approx. 2,000 kg
Rated voltage	6.6kV / 11kV
Rated capacity	2.5MVA
Rated frequency	60Hz
Rated short time with stand V	25kA / 1 sec
Degree of protection	IP 41



Incoming Panel

Equipment for connecting low-voltage from the main power system to the existing MSBD, with integrated system monitoring capabilities.

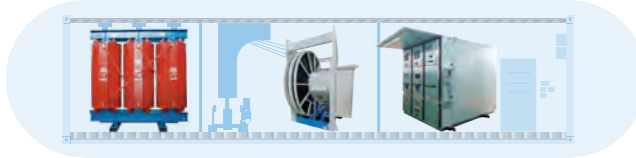
Size	W 2,150 X D 1,650 X H 2,350mm
Weight	Approx. 700 kg
Rated voltage	450V
Rated capacity	1,600A ~ 6,300A
Rated frequency	60Hz
Degree of protection	IP 21
AMP control function	Auto



Pivoting Guide

Cable guide equipment designed to manage the vibration and tension in high-voltage cables during connections.

Size	W 2,030 X D 1,005 X H 1,089mm
Weight	Approx. 510 kg
Driven type	Manual
Ambient temp.	-20°C ~ 45°C
Roller material	Polyformaldehyde
Guide material	Low-carbon steel or AISI 304



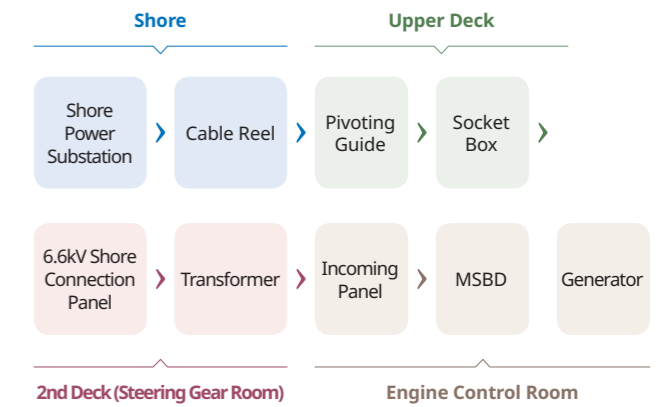
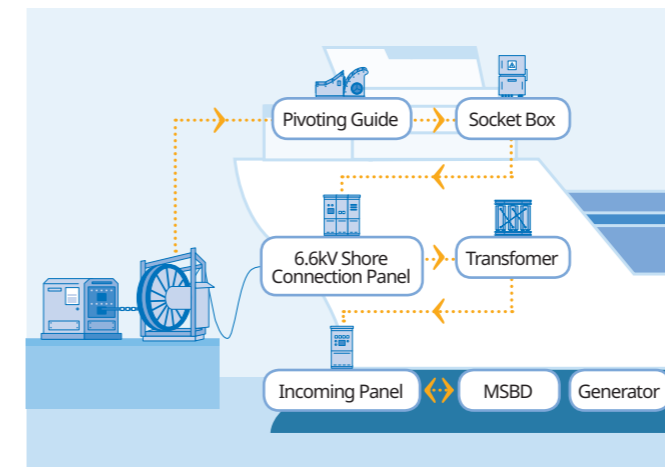
AMP 40ft HQ Container

Cable Reel – 6.6kV Shore Connection Panel - Transformer

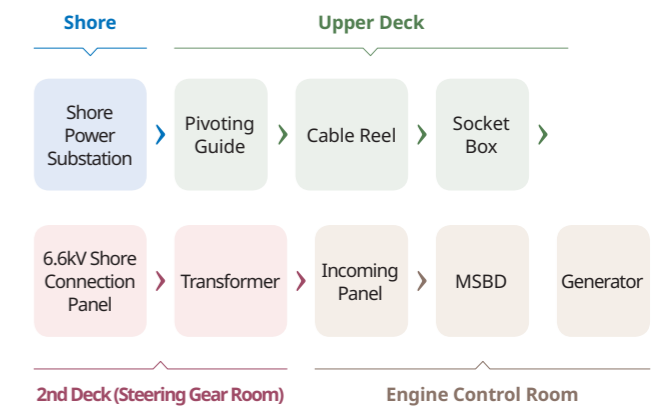
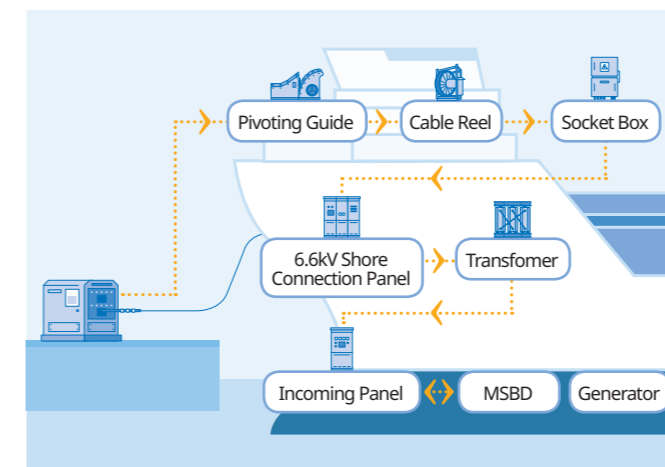
Size	W 12,192 X D 2,438 X H 2,896 mm	Total weight	Approx. 24,000 kg (with cable reel)
Out panel & Door material	Steel	Frame & Base material	SS 41
Paint color	RAL 9003	Q'ty	1 set

Installation Plan

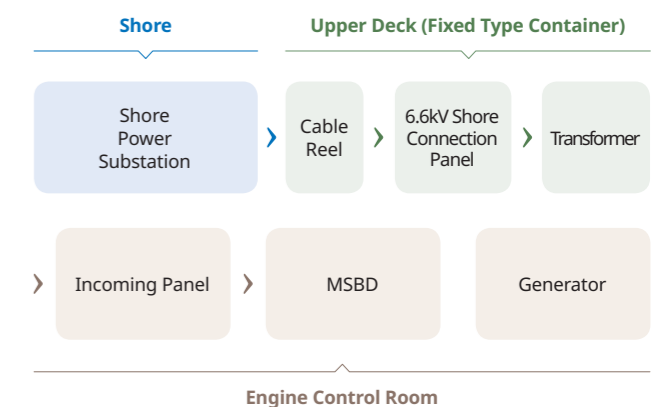
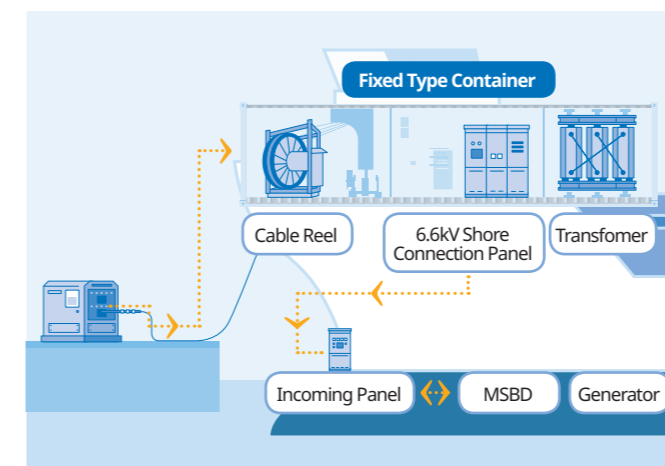
Bulk Carrier (Cable Reel on the shore)



Bulk Carrier (Cable Reel on the ship)



Container & PCTC



Installation References

Bulk Carrier



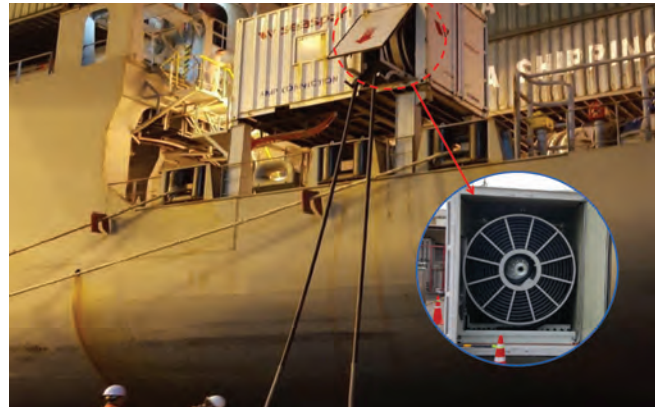
Voltage	6,600V / 450V	AMP equipment	Pivoting guide / 6.6kV HV shore connection panel Transformer / Incoming panel
AMP model	AMP-2MVA		

Training Ship



Voltage	440V
AMP model	AMP-2MVA

Container



Voltage	6.6kV	AMP model	AMP-7MVA
AMP equipment	Fixed type container (20ft)		

Container

Ship name	Voltage	AMP model	Ship owner
XIN SHAN TOU	6,600V	AMP-2MVA	COSCO Container Lines
XIN HUANG PU	6,600V	AMP-2MVA	COSCO Container Lines
XIN CHANG SHA	6,600V	AMP-2MVA	COSCO Container Lines

