

TEHCROSS

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

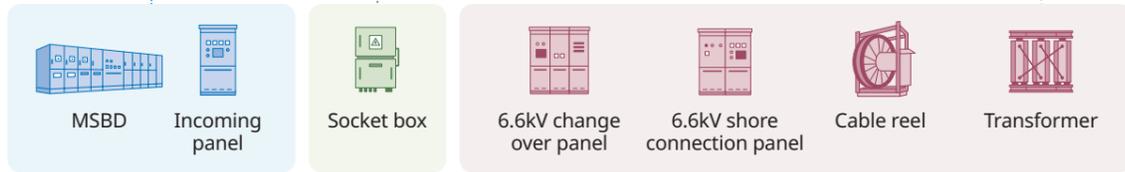
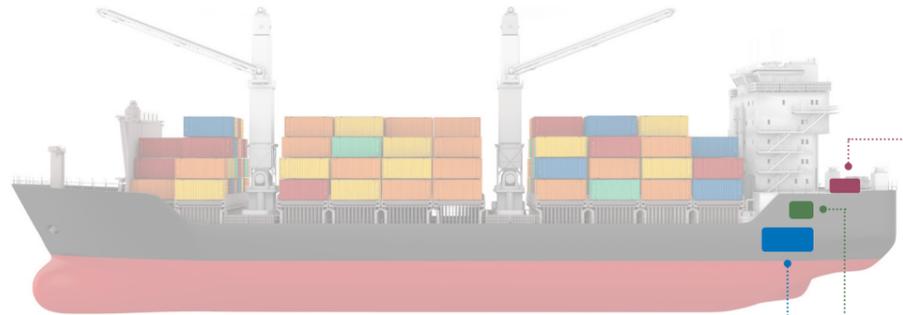
- Global distribution network
- Overseas branches in strategic bases
- A/S service experts around the world



AMP Turnkey Solution Provider, TECHCROSS

As Techcross can handle the entire process of AMP solution, it can offer the best service to clients. This service can apply to all types of vessels regardless of container vessels, bulkers, tankers, PCRC, RoRo and existing vessels. Also, its turnkey solution enhances convenience and saves time, cost on the client's end.

Providing one-stop service



Incoming panel

Rated	450V
Rated capacity	1600A ~ 6300A
Rated frequency	60Hz
Degree of protection	IP 21
AMP control function	Auto



6.6kV change over panel

Rated	6.6kV
Rated capacity	2.5 MVA
Rated frequency	60Hz
Rated short time with stand V	25kA / 1sec
Degree of protection	IP 41



6.6kV shore connection panel

Rated	6.6kV
Rated capacity	2.5 MVA
Rated frequency	60Hz
Rated short time with stand V	25kA / 1sec
Degree of protection	IP 41



Socket box

Rate voltage	7.2kV
Rate current	Max 700A
Material	Stainless steel(SUS 316)
Enclosure color	Light gray(R7035) -Customization
Degree of protection	IP 66
Space heater	AC 230V, 200W



Cable reel

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



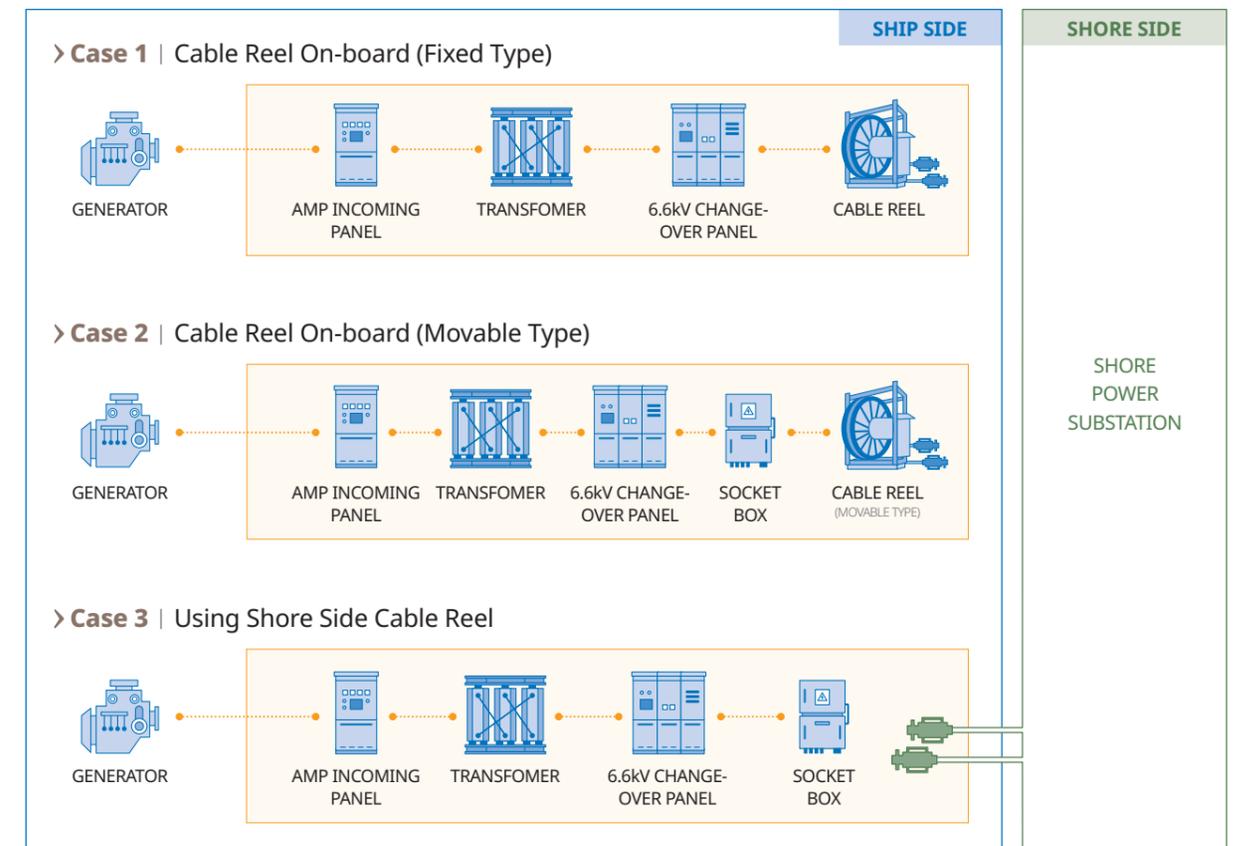
Transformer

Phase, Frequency	3ph, 60Hz
Rated capacity	2.5 MVA
Rated voltage	6600/440V
Temperature class	F
Degree of protection	IP 23
Winding material	Aluminum

Installation Plan

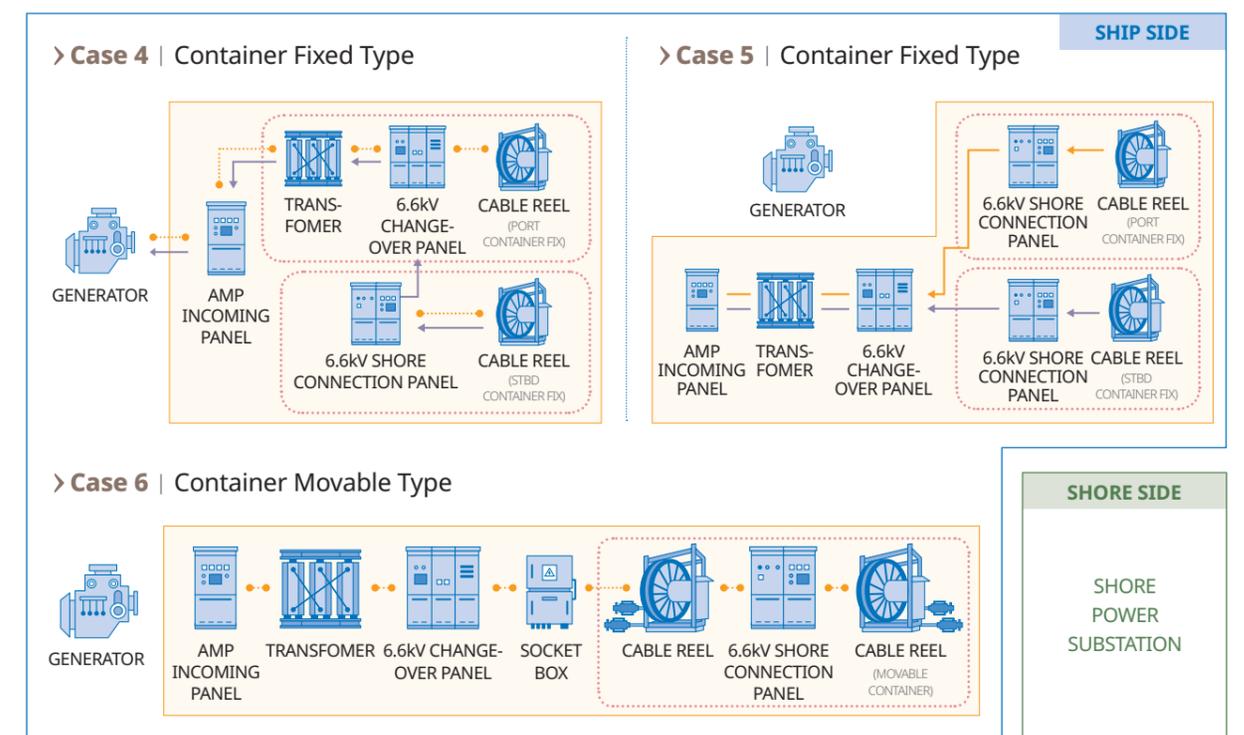
Without Container Type

□ Techcross supply



Container type

□ Techcross supply ◻ AMP 40ft Container



Installation References

No	Date	AMP Service					Vessel	
		On-board survey	Engineering	Equipment supply	Installation & Modification	C/S	No.	Type
1	2013	○	○	COP TR Socket box	- MSBD modification - HV/LV cabling, installation	○	4	6800 TEU Container ship
2	2014	○	○	6.6kV HV Cable reel AMP Container				13100 TEU Container ship
3	2014- 2016	○	○	COP TR Socket box	- MSBD modification - HV/LV cabling - Installation	○	8	13100 TEU Container ship
4	2017- 2019	○	○		- 6.6kV HV installation, modification		14	13100 TEU Container ship
5	2017	○	○	Control panel	- MSBD modification - Installation	○		4800 TEU Container ship
6	2018	○	○	Control panel	- MSBD modification - Installation	○	4	4250 TEU Container ship
7	2018	○	○	6.6kV HV	- 6.6kV HV installation, modification		2	13100 TEU Container ship
8	2018- 2020	○	○		- MSBD modification - Installation		20	4500 TEU Container ship
9	2019	○	○	Cable reel				Training ship
10	2020	○	○	6.6kV HV	- 6.6kV HV installation, modification		2	4250 TEU Container ship
11	2020	○	○	Cable reel				Training ship
12	2021	○	○		- MSBD modification - Installation		2	4250 TEU Container ship
13	2022	○	○	Socket box, MV connection panel, Transformer, AMP incoming panel	- MSBD modification - Installation(Cabling)	○	1	180k Bulk carrier

