

# Ship/Shore Link System

## XBSLS(Excellent Bunkering Safety Link System)

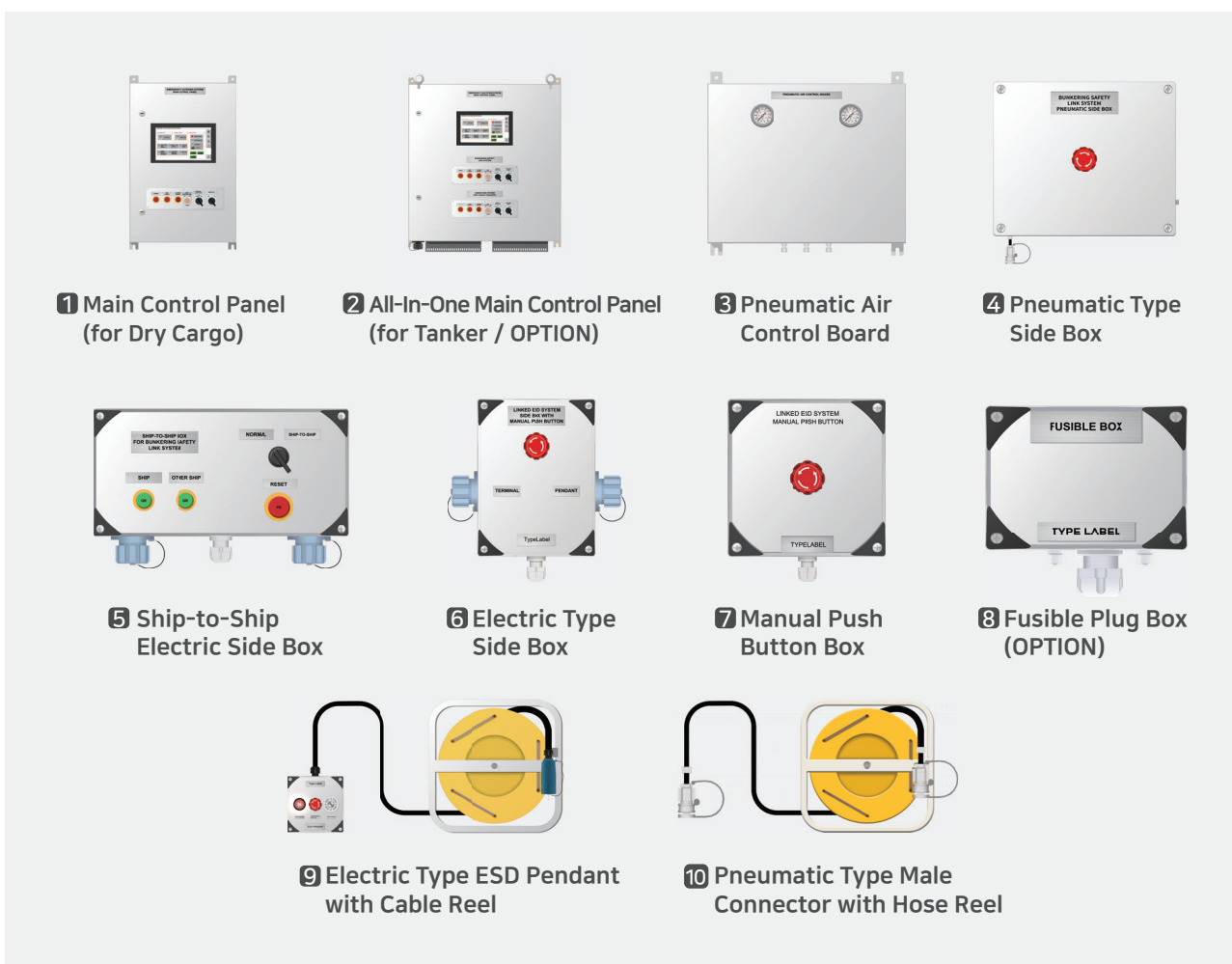
### What is Bunkering Safety Link System?

If an emergency situation such as excessive pressure, gas leakage, fire, tank high overfill, etc. occurs when LNG Dual fuel propulsion vessel is berthed at the Terminal or Bunkering vessel and refuels LNG fuel, it may turn into an accident that causes serious human/material damage.

In order to prevent such accidents in advance, a system is required to link “Bunkering Transfer System” of LNG dual fuel propulsion vessel with Emergency Shutdown System of the terminal(or Bunkering vessel).

SGMF (Society Gas as Marine Fuel) requires LNG dual fuel vessel to have a system capable of exchanging and connecting ESD signals with terminals (or Bunkering vessel) for LNG fuel supply and demand. And, it's called “Bunkering Safety Link System(BSL)” (SGMF TGN 06-05)

### Component List

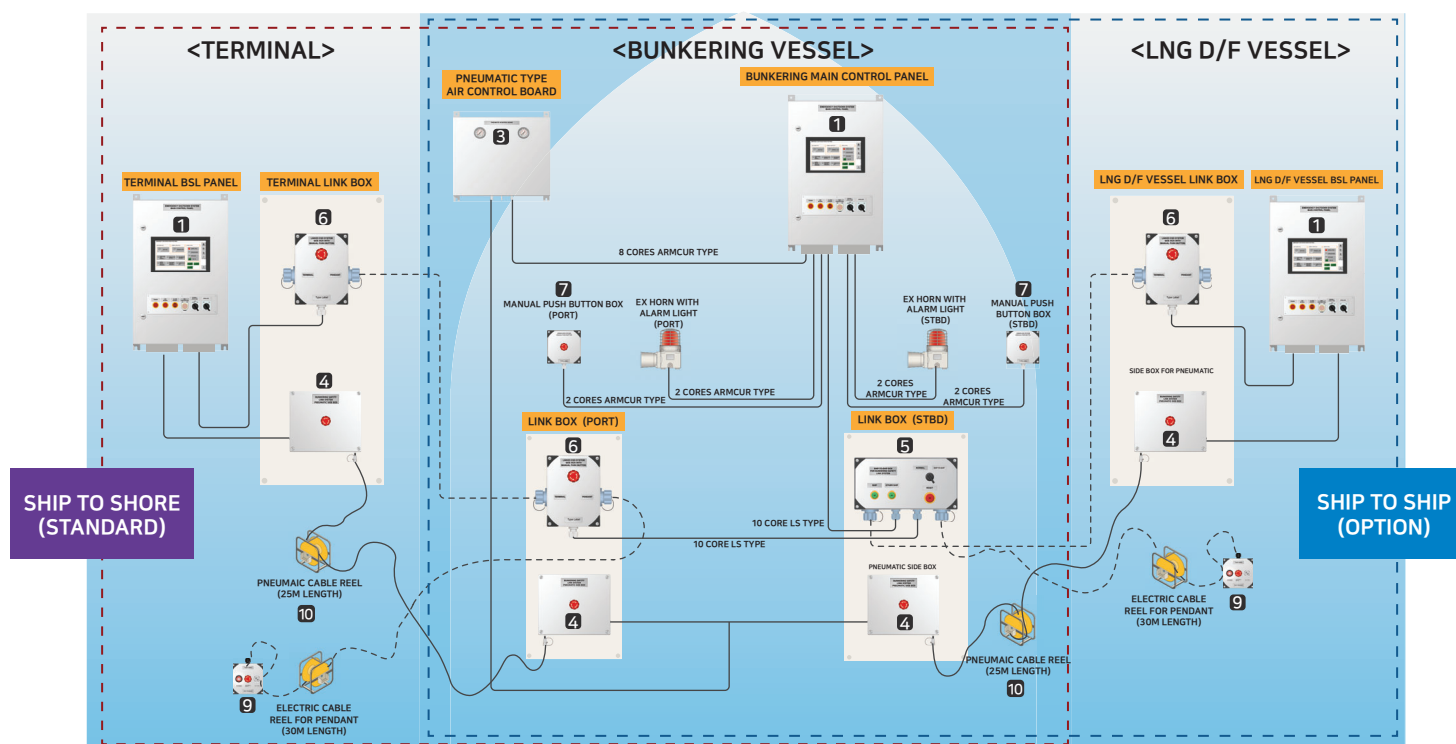


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## Schematic Diagram

### CASE 1 : BUNKERING VESSEL



#### SHIP (BUNKERING) TO TERMINAL

- BUNKERING SHIP : RECEIVER
- TERMINAL : SUPPLIER

#### SHIP (BUNKERING) TO SHIP(LNG D/F VESSEL)

- BUNKERING SHIP : SUPPLIER
- LNG D/F SHIP : RECEIVER

## Note

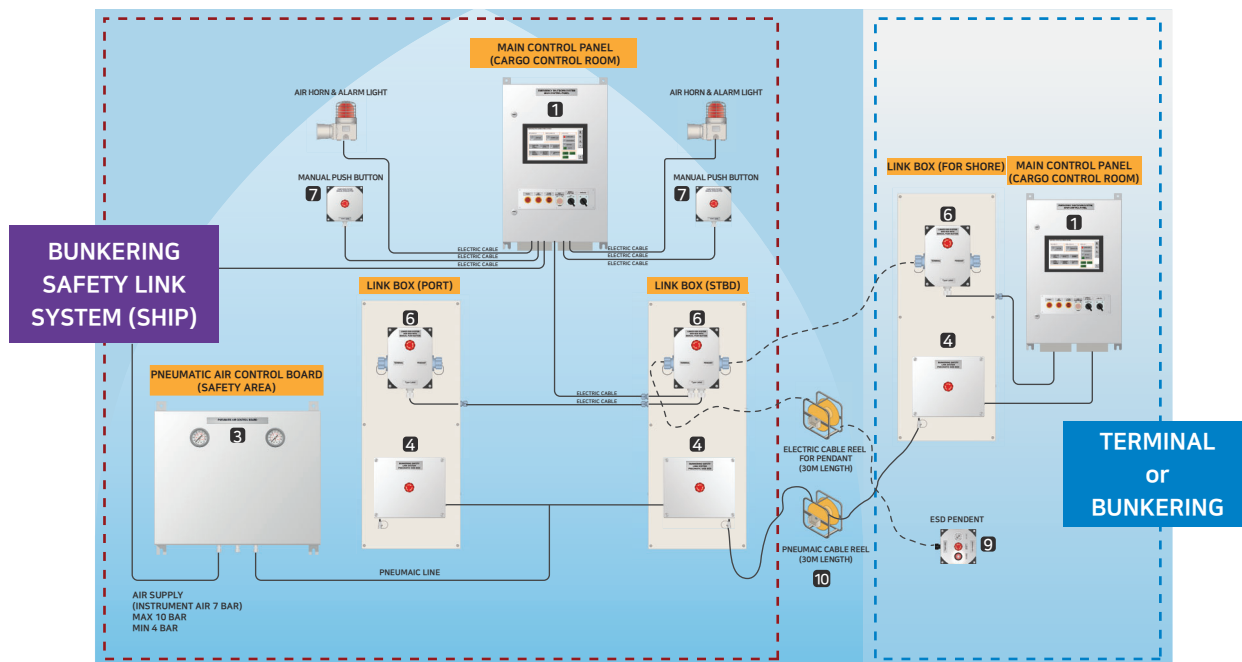
- Pneumatic type supplier mode and receiver mode can be selected with touch screen of main control panel
- electric type can be selected in the Ship-to-Ship side box

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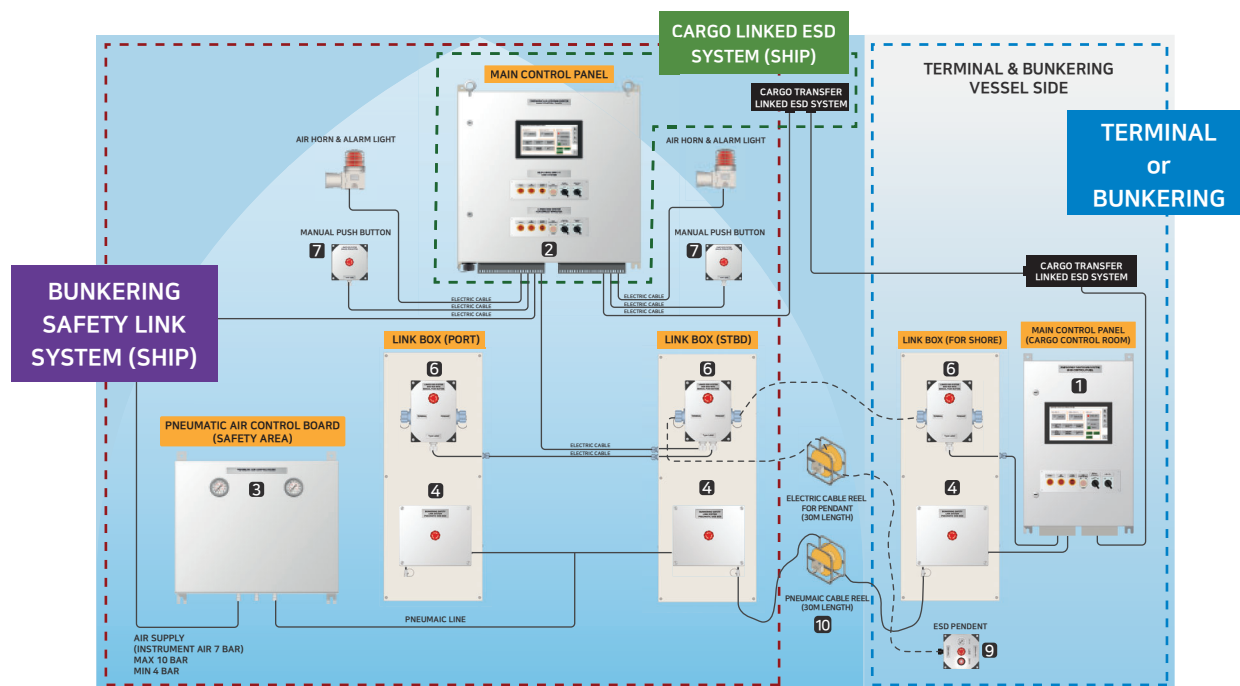
### Schematic Diagram

#### CASE 2 : DRY CARGO LNG D/F VESSEL



- BUNKERING SAFETY LINK SYSTEM - LINK TYPE : ELECTRIC TYPE, PNEUMATIC TYPE (FOR XBSLS)

#### CASE 3 : OIL & CHEMICAL TANKER LNG D/F VESSEL



- ALL IN ONE LINKED ESD SYSTEM (OPTION) - LINK TYPE : ELECTRIC TYPE, PNEUMATIC TYPE (FOR XBSLS)  
- LINK TYPE : ELECTRIC TYPE (FOR CARGO TRANSFER XLESS)

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### Key Features

Our newly developed Bunkering Safety Link System is a system applied for LNG fuel fueling to ships using LNG as dual fuel, and satisfies all requirements of SGMF. Moreover, it not only satisfies all basic requirements, but is confident that it is a competitive system in various aspects such as equipment operation, installation, and space as the development is completed through continuous discussions with major shipyards and related experts in the development process.

- Bunkering safety Link system for LNG D/F vessel
- Intrinsically Safe
- Suitable for EX ia IIB Hazardous area Applications
- System Test Function
- 30m, 50m Pendant or Hose in Reel

### Benefits

Also we can supply "All in one type ESD Link system" that operates XLESS (Linked ESD System for Tanker), which is our existing product, and Bunkering Safety Link system by One main control panel.

- Simple & Competitive Design
- Customized System
- Control both LNG Fuel Bunkering and Oil & Chemical Transfer with One Main Control Panel (Tanker Vessel)