

The logo consists of the letters 'BT' in a large, bold, dark blue sans-serif font.

BUILDING TRUST

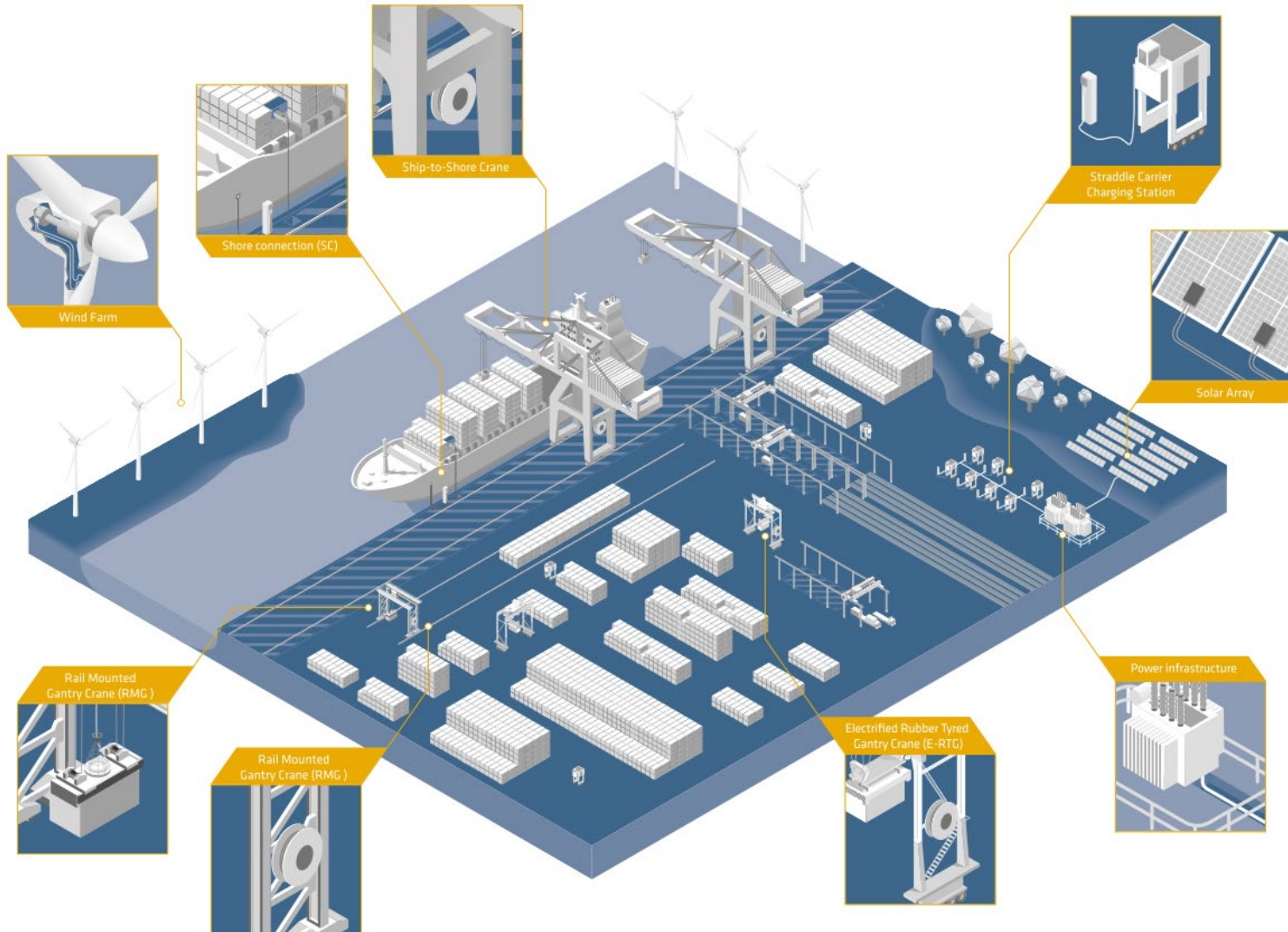
Bellmond Technologies Pte Ltd

Solutions for Green Power Transmission,
Sensing and Safety.

Brian S. Swan
Managing Director

The logo features the word 'Prysmian' in a bold, black sans-serif font, with the word 'Group' in a smaller, lighter grey sans-serif font positioned directly below it.The logo features a circular icon on the left containing a stylized blue and grey symbol, followed by the word 'BROSA' in a bold, grey sans-serif font.

Green Portfolio, Linking Port Operations to Sustainability



Shore Connection

E-RTGC

Green-Labeled for Crane

EV Charging

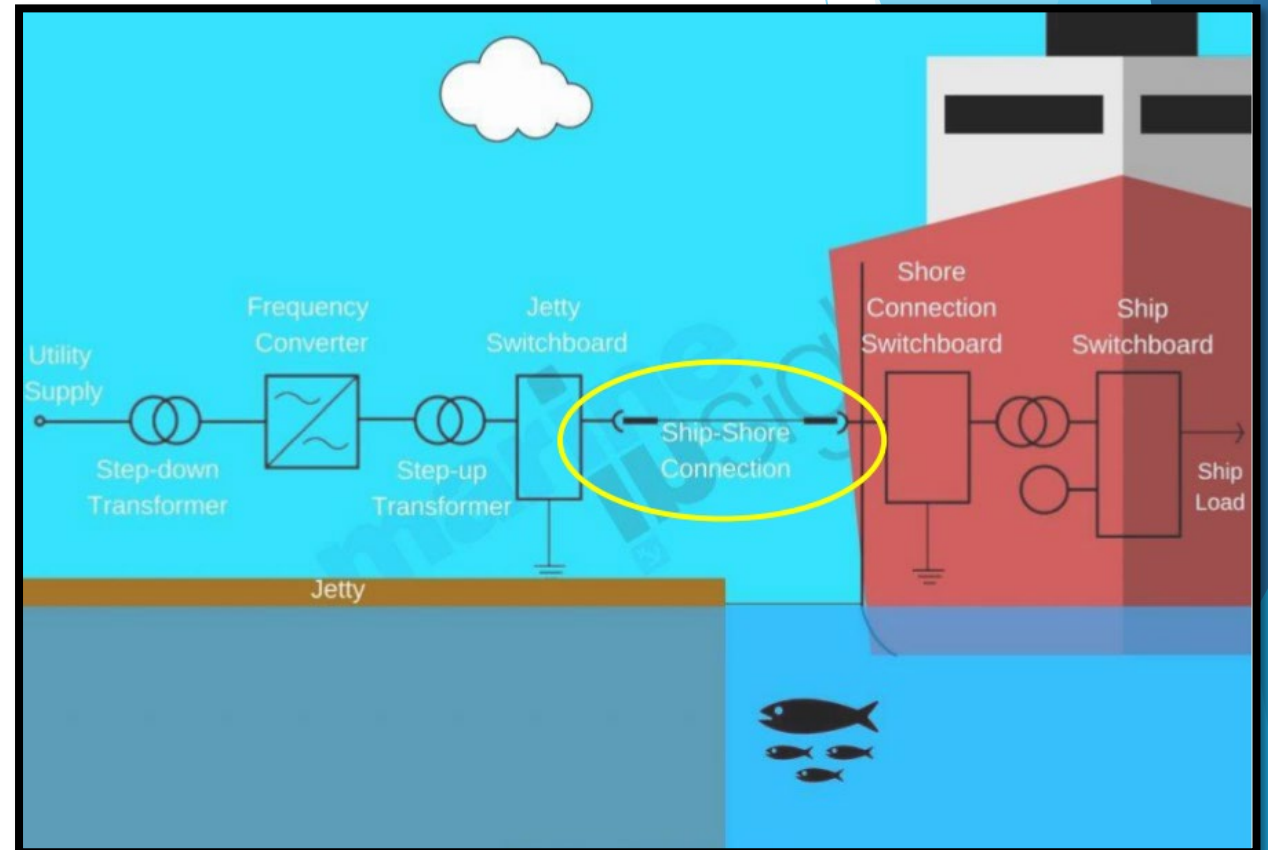
Renewable Energy Generation

Power Distribution

Protolon(SC) Reeling Cables for Shore Connection Systems

Many different names for the same basic technology:

- High-Voltage Shore Connection (HVSC)
- Alternative Maritime Power (AMP)
- Cold Ironing
- Shore-to-Ship Power
-



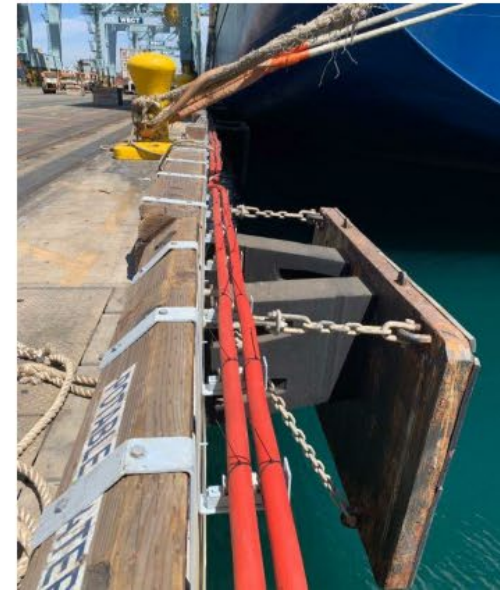
A Cable Connection used to plug ships into the main electrical power grid while berthed. This supplies a ship with enough power and services to let the vessel turn off its engines thus reducing carbon emissions, fuel consumption and noise.



Bellmond Technologies Pte Ltd

Prysmian
Group

Different Technologies – Just One Cable Type





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Protolon(SC)
Medium Voltage 6/10kV – 12/20kV



Power cores, flexible bare CU class 5 with EPR rubber insulation and semi-conductive layers

Composite element with Optical Fibers and Control cores

Ground core, flexible bare CU class 5 with semi-conductive layer

Inner sheath of water-resistant EPR rubber

Outer sheath of water- and abrasion-resistant CPE rubber





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Protolon(SC)
Low Voltage 0.6/1.0kV



Power cores, flexible bare CU class 5 with EPR rubber insulation

Ground core, flexible bare CU class 5 with Green/Yellow insulation

Control core, flexible bare CU class 5 with ERP insulation

Inner sheath of water-resistant EPR rubber

Outer sheath of water- and abrasion-resistant CPE rubber





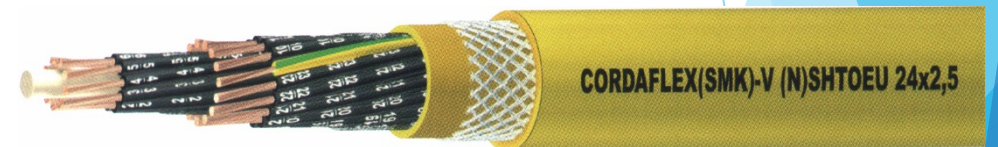
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Protolon(SC)
Reeling Cables for Shore Connection Systems

Main Features:

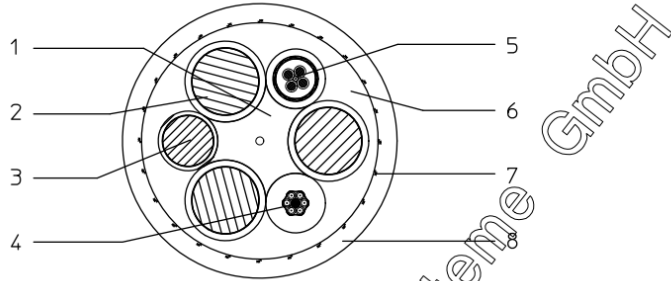
- Compliant to international standard **IEC/ISO/IEEE 80005** and **Bureau-Veritas certified**
- Suitable for all vessels' types (container ships, cruise vessels, RoRo and RoPax vessels, LNG, etc.)
- Designed for **reeling application** but also suitable on **semi-fixed systems**
- Flexible and mechanically robust for **high reliability**
- Resistant to UV, ozone and moisture
- The only cable on the market fit for **permanent immersion in water**
- Delivered with pre-mounted plugs or terminations on request



Power & Control Flexible Cables
For Cranes/Mining/Tunnelling

E-RTGC

Cordaflex(SMK) 0.6/1.0kV, 3x120+1x70+1x(4x2.5)C+1x(6E9/125)



- (1) rubber cradle separator
- (2) 3 power cores 120mm²
 - tinned copper conductor, extra finely stranded
 - foil
 - PROTOLON(MSI)-insulation
 - black number printing
- (3) 1 earth conductor 70mm²
 - tinned copper conductor, extra finely stranded
 - foil
 - PROTOLON-insulation
 - green/yellow
- (4) 1 optical fiber element (6E9/125µm)
 - central carrier
 - 6 optical fibers (E9/125µm) in single loose buffer tubes
 - rubber covering
- (5) 1 KV element (4x2.5)C
 - 4 control cores 2.5mm²
 - tinned copper conductor, extra finely stranded
 - ETFE-insulation (with white number printing)
 - rubber covering
 - tape spinning
 - screen in form of a braid of tinned copper wires
 - foil-/non woven spinning
 - rubber covering
- (6) CR - inner sheath
- (7) reinforcement polyester yarn braid
- (8) CR - outer sheath

cable diameter: 64.9mm (+/- 2.0mm)
cable weight: approx. 8100kg/km

#5 Fibre Optic Options

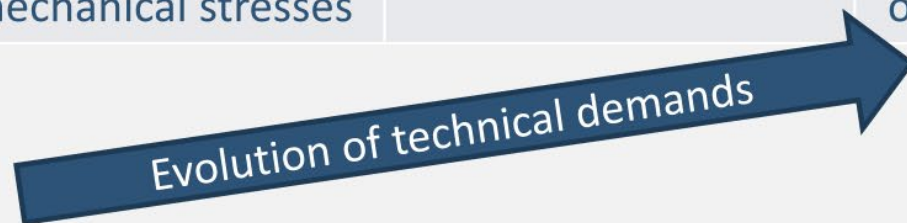
Quantity: 6, 12, 18 or 24 fibres
Type: 50/125, 62.5/125, E9/125

PRYSMIAN KABELSYSTEME GmbH

PROTOLON Family – The Real Deal

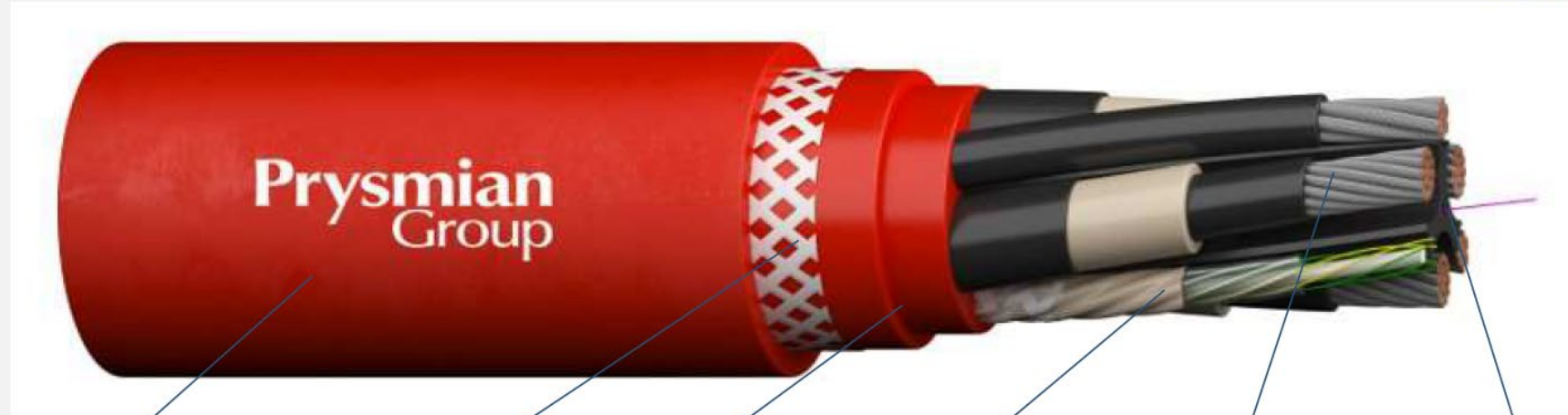


PROTOLON(SMK-200)	PROTOLON(SMK)	PROTOLON(SMK+HS)	PROTOLON(iQ)
			
Made for reeling operations with moderate mechanical stresses	Made for reeling operations with high to highest mechanical stresses	Made for High speed reeling operations	Made for Permanent Monitoring of reeling operations



PROTOLON(iQ) – Measure – Control – Predict

MV reeling cable with well-known PROTOLON(SMK) design!
Enhanced with IQ function



High grade outer Sheath – type PCP (better than 5GM5)

Anti-torsion braid

High grade inner Sandwich – type PCP (better than 5GM5)

FO element with commodity and IQ-ref. fibers

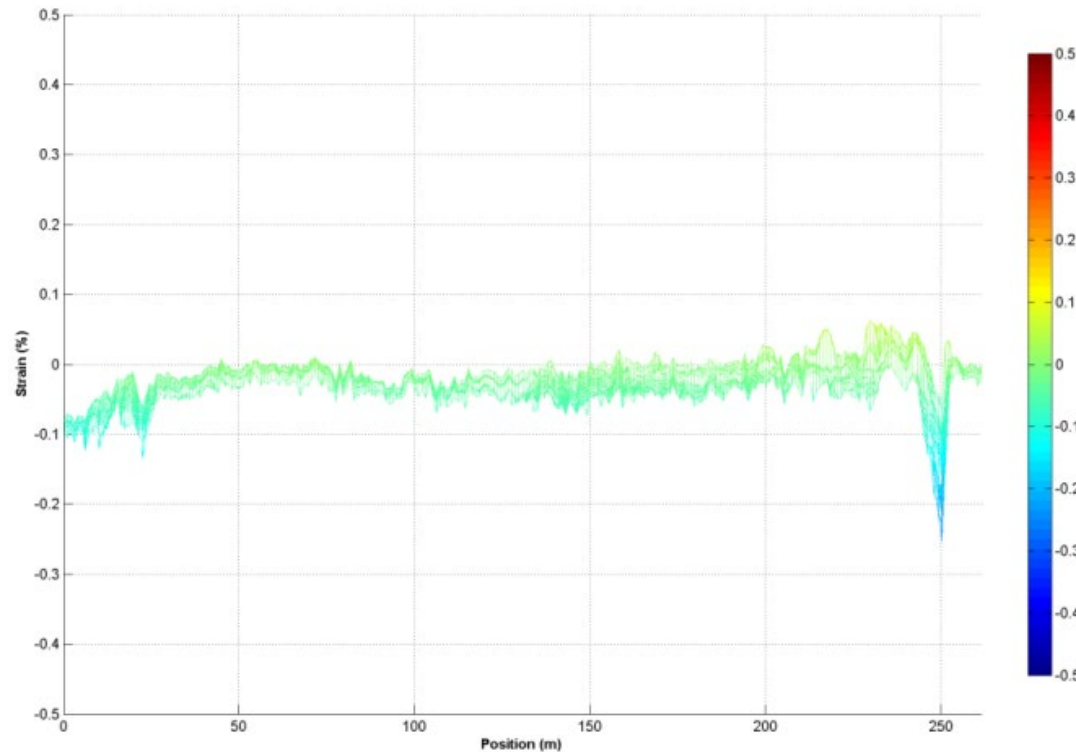
Power cores, super flexible tinned CU, with high grade EPR insulation

Cradle separator with IQ-Sensor fiber

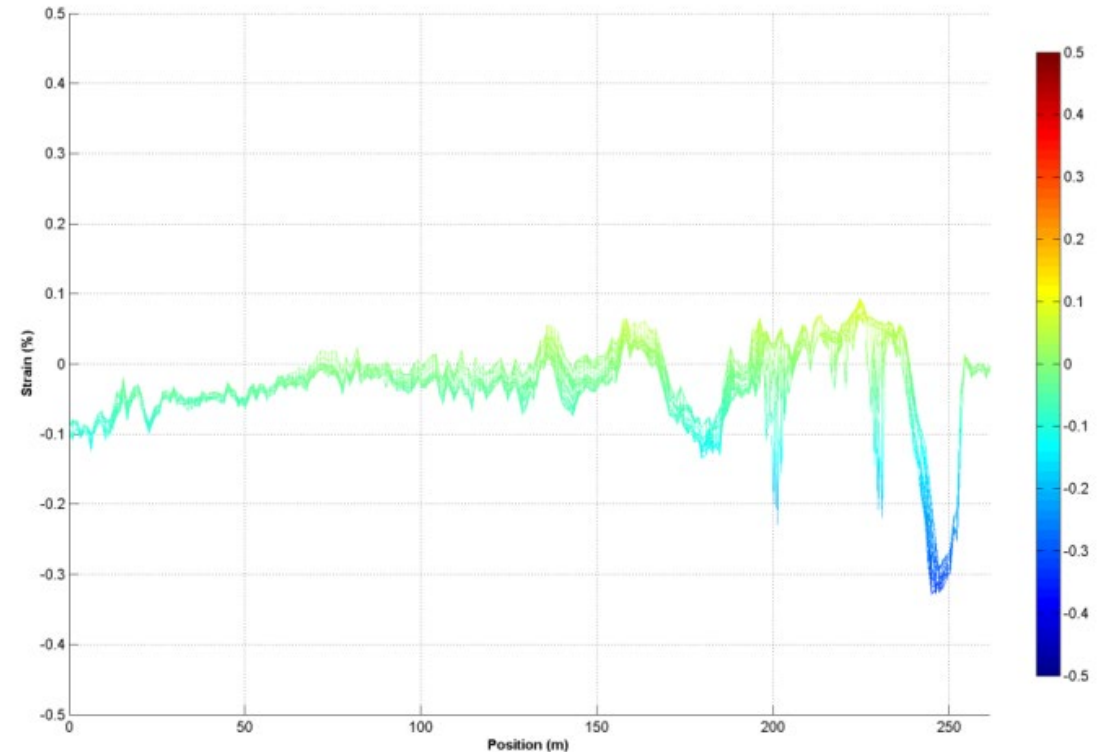
Protolon(iQ) 6/10kV, 3x70+2x35/2+1x(16E9+2E9ref) <RED>

- Installation date: 14/05/2019 - 17/05/2019
- Monitoring - phase 1: 18/05/2019 - 29/07/2019
- Monitoring - phase 2: 19/12/2019 - 24/02/2020
- Monitoring - phase 3: 25/02/2020 - 15/11/2020

Strain - IQ1 : 18-May-2019



Strain - IQ1 : 27-May-2019



Load Cells
Anti-Snag/Overload & Weighing Systems
Ex-Proof Sensors



Why Safety & Weighing Systems?

Safety systems on lifting equipment is a **mandatory** requirement when loads are lifted

Monitoring of Safe Working Limits and Operational Limits at all times

Safety Systems must comply with Safety Standards

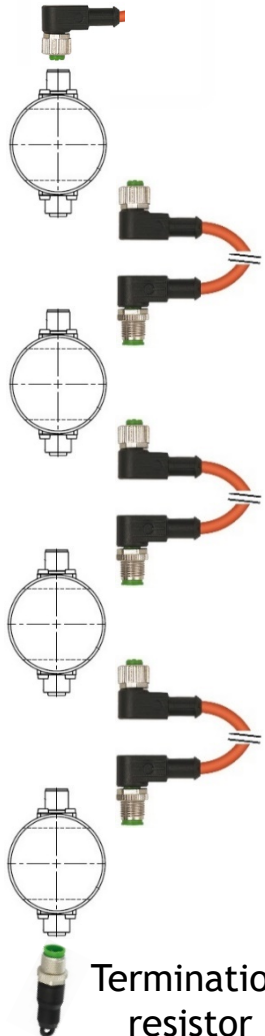
Safety issues for extended functions (e.g. SOLAS)

- Detection of wrongly declared Container Weights
- Improvement of Ship Stowage Plans

Obtaining the VGM of a container with a certified weighing system

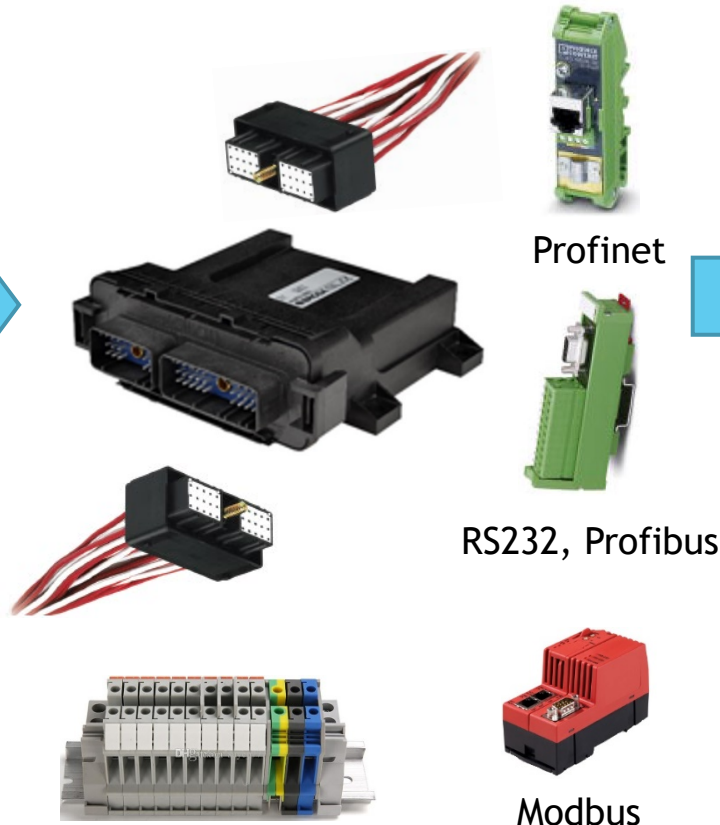


Load sensors with CAN in / CAN out



Connection cables 5 pin male / female connectors

Electronic system 0656
with connectors and accessories



Profinet

RS232, Profibus

Modbus



Operator's display



Crane PLC



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