igus mobile shore power outlet

engine

Green Ports...Smart Ports...Zero Emission

Shore power for Container Terminals...The Big Picture...

profit...safety...automation...electrification...4.0...green...zero emission...



Ship cable management system limitations





The Connection Dilemma: Container Vessels



Multiple ships and flexible berthing arrangements...



Changing positions of onboard cable management systems and limited cable deployment length...



Changing connection points...

Current Options...Vault connections...









300m berth: 6 vaults every 50m = 120m total coverage = max. 60%



Green area = close alignment acceptable connection

Yellow area > 7m misalignment Difficult connection

Red area = No connection "Dead Zones"

Current Options...Extension Systems...



- Adds extra handling to operation...
- Won't work for most of the terminals ...



California: Development and Consequences

- Regulation got enhanced over the years
- More vaults were installed -> minimum 4 up to 6 and more
- but from 2023 CARB requires 100% connection
- consequence: no connection = no compliance and penalties
- Utilize your infrastructure = 100% connection
- ROI = selling electricity = 100% connection
- 100% connection = zero emission





Challenge: Predicting the future...



Today's solutions may not fit tomorrows needs and investments must provide a return.

- Where will you need to provide connectivity over the next 10-15-20 years?
- What will it take to achieve this? What are the current options? More vaults?
- Is it really possible to see the future and plan







- Provide the ultimate in connection flexibility
- Improve handling for operators
- Reduce installation and maintenance cost
- Be fully compliant with standards and regulations
- Have a service life of up to 20 years
- Be a one-time investment

Finally, a solution to align your shore power to your ships... and not your ships to your shore power!

- Connect EVERY ship at ANY location along the entire berth!

- The system allows complete operational flexibility of berthing plans to optimize work flow!

Collaboration with experts to protect iMSPO









many fender options: dual cone, double element, single cone, roller fenders... stopper... bumpers...



Summary Specifications and Safety



- Designed according to IEC 80005-1, Annex D 6.6kV, 7.5MVA
- Meets EU Machinery Directive 2006/42/EC
- Corrosion protection system according to C5-M
- IP66/67 rating for electrical components
- Kirk Key integration into existing system
- Push Pull Detection Systems (PPDS)
- Signaling for system status
- country specific certification (to be adapted)



igus® at a glance





- Founded 1964
- 4.150 employees (about 1,950 in Germany, 2.200 worldwide)
- 35 subsidiaries worldwide
- EUR 748 million revenue in 2018
- 100.000 motion plastics[®] products
- 200.000 customers worldwide
- 192.151 sqm floor space in Cologne

- Certified according to nach IATF 16949:2016 and ISO 9001:2015 for all product areas
 largest test lab in its industry with 2.750 sqm
- over 15.000 tests per year
- Distribution, R&D, injection molded, lab and marketing from Cologne
- more then 7,000 deliveries/day to customers around the world
- Average order value: 365 €
- "Direct Engineering" sales teams in 80 countries

