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New Chapter with all our Passion!

DONGYANG

INDUSTRIES ELECTRIC Co., Ltd.

DIGITAL CATALOG

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

All DongYang employees are unified by their passion and ommitment!
We will continually strive to take our business to the next level.

www.e-dy.com



Sails Towards the Future for Humanity

All DONGYANG employees are unified by their passion and commitment!
We will continually strive to take our business to the next level.



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Beautiful future beyond the BLUE SEA

바다가 주는 아름다운 미래! 바로, 동양산전의 미래입니다.

BLUE SEA with
ENVIRONMENTAL
환경경영

BLUE SEA with
SOCIAL
인권경영

BLUE SEA with
GOVERNANCE
윤리경영

DONGYANG | ESG

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Environmental

ECO MANAGEMENT

We will protect the global ecosystem and achieve carbon neutrality in response to environmental management, eco-friendly technology development, and global climate change.



DONGYANG ESG



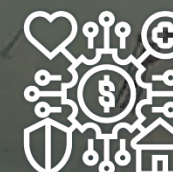
Social

PEOPLE

Understand and carry out corporate social responsibility,
We will work together as members of a sustainable society.



DONGYANG ESG



Governance

ETHICS & COMPLIANCE

We will practice transparency and fair management of corporate management and create a more trusted company in our relationship with our partners.



DONGYANG ESG

DONGYANG

INDUSTRIES ELECTRIC Co., Ltd.



Promotional Video

Check out the vision of Dongyang Industries Electric Co., Ltd. to share the future!



STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

All DongYang employees are unified by
their passion and ommitment!
We will continually strive to take
our business to the next level.



CEO GREETINGS

New Chapter with all our Passion!

DongYang has been manufacturing various kinds of Switchboards and distribution boards including MCC, MSBD, ESBD, GSP and consoles etc. for Marine and Onshore since 1988. And we're expanding our business to offshore area.

We also provide professional resources in design, construction, QA&QC and commissioning.

Our R&D department has constantly performed various tasks such as obtaining patents and quality certificates as well as localization of equipment.

DongYang will rapidly respond to the changes and opportunities in the market to meet customer demands.

Sincerely Yours
David Park. CEO



New Chapter with all our Passion!

DONGYANG

INDUSTRIES ELECTRIC Co., Ltd.



경영철학

Management Philosophy

New Chapter with all our Passion!



**BEST
Quality**

품질제일



**BEST
Talented**

인재제일



**First Place
Consciousness**

일등의식



**Creative
Management**

창조경영

Customer satisfaction with the
best technology and quality

Sustainable growth to increase corporate value

fair and transparent management

safe and eco-friendly management

Management Philosophy

Management Policy

Quality Policy

Business Area

경영방침

Management Policy

New Chapter with all our Passion!

Companies seeking sustainable growth based on talented people

Preemptively secure the eco-friendly technologies needed for the coming future

Developing new markets and developing new technologies

Technological improvement through research and development

Environmental

Increase corporate competitiveness through securing and developing excellent human resources

Maximize your work with fair evaluation and rewards

Continuous human resource development by revitalizing education

Social

Improvement of ethical/compliance management structure to overcome corporate crisis

Improve horizontal organizational culture and working environment

Identify customer needs and establish a sales management system

Governance

Management Philosophy

Management Policy

Quality Policy

Business Area

품질정책

Quality Policy

New Chapter with all our Passion!

**Prioritize customer satisfaction,
manage optimal quality and cultivate talented people**

Quality Improvement

품질향상

We do our best to provide
the best quality and service and
to keep our promise to our customers

Talent Development

인재개발

Developing new markets and new technologies,
training human resources for various R&D, and
conducting domestic/foreign education

Customer Satisfaction

고객만족

Through continuous quality improvement and
quality management, thorough preventive ac-
tivities and customer perspective are considered.

Management Philosophy

Management Policy

Quality Policy

Business Area

사업영역 Business Area

New Chapter with all our Passion!

A company that makes electrical equipment! Dongyang Industries Electric Co., Ltd. serves as a total system provider. In addition, it is a production company of a consistent system that makes final finished products by purchasing iron plate raw materials.



MARINE

선 박



ONSHORE

육 상



OFFSHORE

해 양



**EXPLOSION
PROOF**

방폭박스



**R&D
CENTER**

기술연구소

Management Philosophy

Management Policy

Quality Policy

Business Area

주요생산물 및 서비스

Product & Service

New Chapter with all our Passion!

Design & Manufacturing

DongYang Industries Electric Co., Ltd. produces outstanding products based on our more than 30 years of expertise with on incoming and distributing panels. Our customers` satisfaction and repeat business due to our excellent products, east of communication and extensive services guarantees DongYang Industries Electric Co., will be here for future generations of employees, customers and offshore technologies.

Onshore

- 2.4kV Switchgear
- 12kV Switchgear
- 7.2kV Switchgear
- LV Switchgear
- MCC and LCS

Offshore

- HV/MV Switchgear
- LV Switchgear
- MCC (Motor Control Center)
- RIO panel

Marine Vessel

- Switchboard(MCC)
- MV Switchboard
- LV Switchboard
- EM'CY Switchboard
- Group Starter Panel
- Local Group Starter Panel
- Bow Thruster Starter
- Distribution Panel
- Engine Control Console
- Bridge Control Console
- BWC (Bridge Wing Console)
- Pressure Gauge Board For LNG
- Cargo MCC

DONGYANG

INDUSTRIES ELECTRIC Co., Ltd.



Promotional Video

Check out the vision of Dongyang Industries Electric Co., Ltd. to share the future!



STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Onshore

2.4kV Switchgear



Standard

1. Switchgear according to the IEC 62271-200
2. Degree of Protection followed the IEC 60529, IP42



Electric Characteristics

1. Rated Voltage: 24kV
2. Normal Current: up to 3,150A
3. Short-Circuit with Stand Current: up to 31.5kA

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Onshore

12kV Switchgear

Standard

1. Switchgear according to the IEC 62271-200
2. Degree of Protection followed the IEC 60529, IP42

Electric Characteristics

1. Rated Voltage: 12kV
2. Nomal Current: up to 4,000A
3. Short-Circuit with Stand Current: up to 40kA



Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Onshore

7.2kV Switchgear



Standard

1. Switchgear according to the IEC 62271-200
2. Degree of Protection followed the IEC 60529, IP42

Electric Characteristics

1. Rated Voltage: 7.2kV
2. Nomal Current: up to 4,000A
3. Short-Circuit with Stand Current: up to 40kA



Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Onshore

LV Switchgear



Standard

1. Switchgear according to the IEC 62271-200
2. Degree of Protection followed the IEC 60529, IP42

Electric Characteristics

1. Rated Voltage: 690V
2. Nomal Current: 600A to 5,000A
3. Short-Circuit with Stand Current: up to 85kA



Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service Onshore

MCC and LCS

Standard

- 1. Switchgear according to the IEC 6227-1200
- 2. Degree of Protection followed the IEC 60529,IP42

Electric Characteristics

- 1. Rated Voltage: 690kV
- 2. Nomal Current
 - Horizontal Busbar: up to 400A
 - Vertical Busbar: 650A, 850A
- 3. Short Circuit with Stand Current
 - Horizontal Busbar: up to 83kA
 - Vertical Busbar: up to 65kA

Main Electrical Specification

Degree of Protection followed the IEC60529: up toIP66

ENCLOSURE

- 1. Material: Stainless steel 316
- 2. Component: Weather proof box, Sun shade,Stanchion



Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Marine

Switchboard(MCC)



Main Electrical Specification

Capacity 800~ 3200 KVA

Input AC 440/690 V, 3W, 3 Phase

Output 3200~3290 A



Degree of Protection:

IP = 23, 44

From Design to Fabrication

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Marine



MV Switchboard



Main Electrical Specification

Input AC 6.6kV, 3W, 3 Phase

Degree of Protection:

IP = 32 From Design to Fabrication

LV Switchboard



Main Electrical Specification

Input AC 690~110V, 3W, 3 Phase

Degree of Protection:

IP = 22 From Design to Fabrication

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Marine



EM'CY Switchboard



Main Electrical Specification

Input AC 690~110V , 3W, 3 Phase

Degree of Protection:

IP = 22, 44 From Design to Fabrication

Group Starter Panel



Main Electrical Specification

Input AC 690~110V , 3W, 3 Phase

Degree of Protection:

IP = 22 From Design to Fabrication

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Marine

Local Group Starter Panel



Main Electrical Specification

Input AC 440~230V, 3W, 3 Phase

Degree of Protection:

IP = 22
From Design to Fabrication

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Marine

Bow Thruster Srarter



Main Electrical Specification

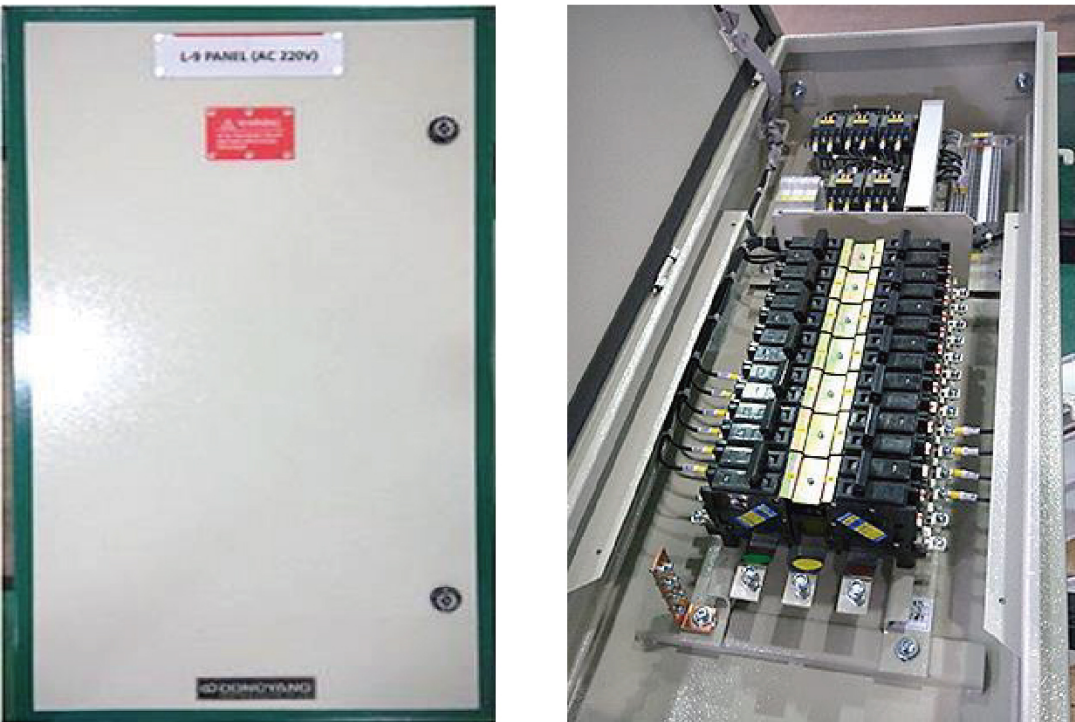
AC 6600/3300/440V, 3W, 3 Phase

Degree of Protection:

IP = 44 From Design to Fabrication



Distribution Board



Main Electrical Specification

Input AC 440~230V, 3W, 3 Phase

Degree of Protection:

IP = 22, 44 From Design to Fabrication

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Marine

Engine Control Console



Main Electrical Specification

Input AC 220V, 3 Phase

Degree of Protection:

IP = 22 From Design to Fabrication

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

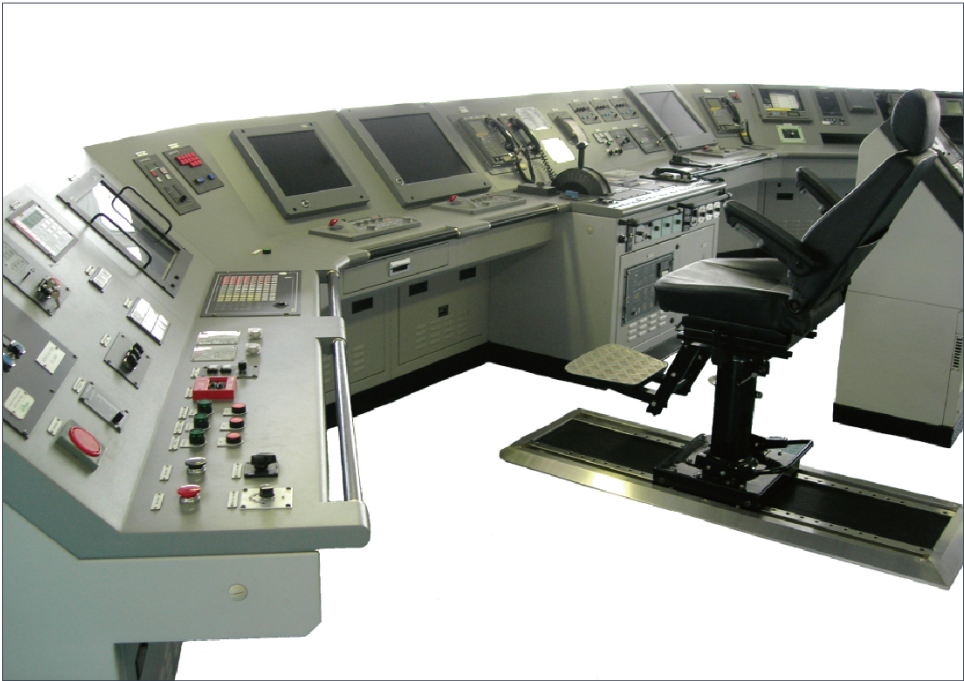
Pressure Gauge Board

Cargo MCC

Products & Service

Marine

Bridge Control Console



Main Electrical Specification

Input AC 220V , 3W, 3 Phase

Degree of Protection:

IP = 22 From Design to Fabrication

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Marine



Bridge Control Console



Main Electrical Specification

Input AC 220V , 3W, 3 Phase

Degree of Protection:

IP = 22 From Design to Fabrication

Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service Marine

BWC (Bridge Wing Console)



Bridge Wing Console



Group Control Panel



Wheelhouse Gauge Board



Chart Console



Radio Console



Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service

Marine

Pressure Gauge Board



Main Specification

Temp. $-30^{\circ}\text{C} \sim 70^{\circ}\text{C}$

Pressure $0 \sim 20 \text{ bar}$ or Above

Degree of Protection:

IP = 56 or Above

From Design to Fabrication



Onshore

2.4kV SWITCHGEAR

12kV SWITCHGEAR

7.2kV SWITCHGEAR

LV SWITCHGEAR

MCC and LCS

Offshore

HV/MV Switchgear

LV Switchgear

MCC (Motor Control Center)

RIO panel

Marine

Switchboard(MCC)

MV Switchboard

LV Switchboard

EM'CY Switchboard

Group Starter Panel

Local Group Starter Panel

Bow Thruster Starter

Distribution Panel

Engine Control Console

Bridge Control Console

BWC (Bridge Wing Console)

Pressure Gauge Board

Cargo MCC

Products & Service Marine

Cargo MCC



Main Electrical Specification

Input AC 690~110V, 3W, 3 Phase

Output 600~5000 A or Above

Degree of Protection:

IP = 22 From Design to Fabrication





MV Switchboard

Standard

1. Switchboard according to the IEC 62271-1, 200
2. Degree of Protection : IP33

Electric Characteristics

1. Rated voltage/current : 1250 A
2. Rated frequency : 50/60 Hz
3. Rated short time withstand current : 25 kA / 2 sec
4. Rated peak withstand current : 65 kA
5. Rated lighting impulse withstand voltage : 60kV
6. Power frequency withstand voltage : 20kV
7. Internal arc certificate : AFLR, 25kA, 1s



Performance Test Report
: Metal-Enclosed Switchgear and Controlgear



Type Test Certificate of
Internal Arc Performance
: Three-phase metal-enclosed switchgear
& Controlgear with withdrawable vacuum circuit-breaker

MV Switchboard

LV Main Switchboard

Group Starter Panel

Bow Thruster Starter



LV Main Switchboard

Standard

1. Switchboard according to the IEC 61439-1, 2
2. Degree of protection : IP22

Electric Characteristics

1. Rated voltage/current : 440V, 2500A
2. Rated frequency : 60HZ
3. Rated insulation level
 - 1) Power frequency withstand voltage : 8kV
 - 2) Impulse withstand voltage : 12kV(MSBD incoming), 8kV(MSBD feeder)
4. Rated short time current : 50kA 1sec



Performance Test Report

: Low-voltage switchgear and controlgear assembly

MV Switchboard

LV Main Switchboard

Group Starter Panel

Bow Thruster Starter



Group Starter Panel

Standard

1. Switchboard according to the IEC 614391, 2
2. Degree of protection : IP22

Electric Characteristics

1. Rated voltage/current : 440V, 1300A
2. Rated frequency : 60HZ
3. Rated insulation level
 - 1) Power frequency withstand voltage : 8kV
 - 2) Impulse withstand voltage : 8kV
4. Rated short time current : 50kA 1sec



Performance Test Report

: Moto Control Center



Bow Thruster Starter

Standard

1. Switchboard according to the IEC 622711, 200
2. Degree of Protection : IP44

Electric Characteristics

1. Rated voltage/current : 7.2kv 300 A
2. Rated frequency : 50/60 Hz
3. Rated short time withstand current : 6.3 kA / 1 sec
4. Rated peak withstand current : 16.38 kA
5. Rated lighting impulse withstand voltage : 60kV
6. Power frequency withstand voltage : 20kV
7. Internal arc certificate : AFLR, 6.3kA, 0.5s



Performance Test Report

: Metal-Enclosed Switchgear and Controlgear

MV Switchboard

LV Main Switchboard

Group Starter Panel

Bow Thruster Starter



OEM production (Local Service Parter)



Local service partner

Installation & modification at site
Modification & storage at DONGYANG factory

OEM assembler

LV Distribution board (450V, 690V)

Material procurement

Full range of materials required for field work



ABB

Schneider Electric

Licensed assembler & local service partner

Prisma Plus & iPM LV Distribution board

Supplied 124 Prisma Plus & iPM panels for BP Clair Ridge

Modified HV switchgear internal wiring for Total CLOV FPSO

LV SWBD commissioning service for BP Q204 FPSO



ABTECH

EMERSON

HSE

Products & Service

Local Service Partner

OEM production (Local Service Partner)

Specification

SUS316, GRP

Eex e/d

Up to IP 66, 67, 68

OEM manufacturer (IECEx certified shop) & distributor

IECEx, ATEX, GOST-R, NEMA certified

Export to UK, USA, Singapore



Facility Production & Supply

Local distributor

Lighting / Receptacle /

LCS (local control station)

**Lighting & Receptacle supplied for RasGas Barzan,
ExxonMobil Point Thomson project**

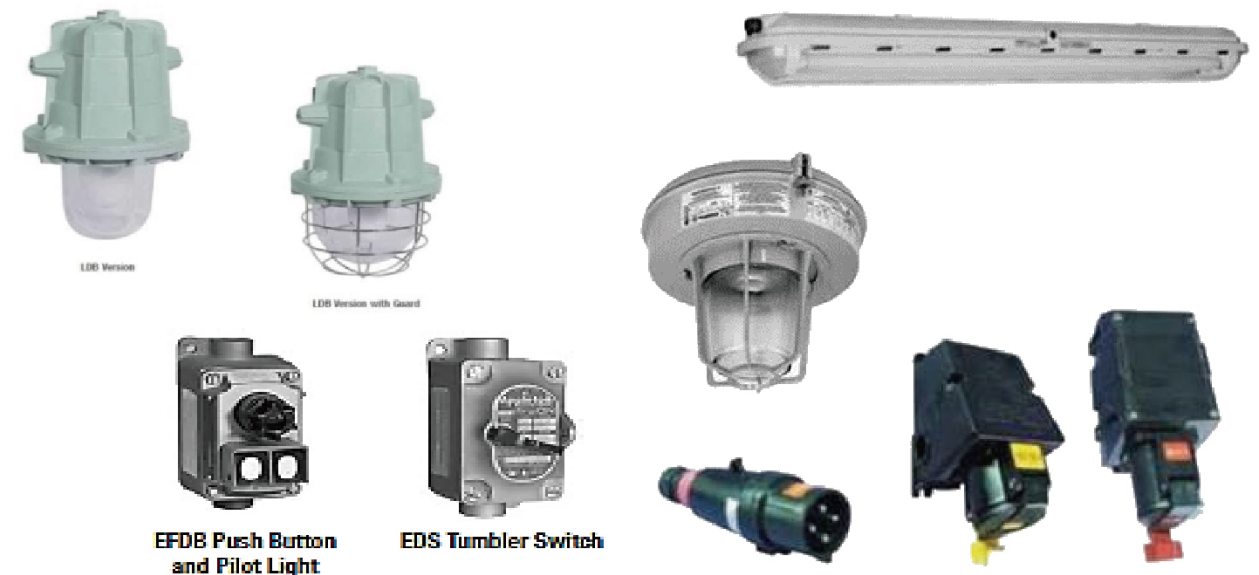
LCS supplied for PTB, state of Kuwait Az-Zour project



ABB



Schneider Electric



ABTECH

EMERSON

HSE



HSE Training

The purpose of safety training is to provide the knowledge necessary to perform a job safely by establishing expectations for employees on how to perform job tasks. Knowledge acquired by participation in training is one of the methods used to create an effective safety culture.



HSE training at shipyards / offices / factories

ISO 45001

IIF for over 6 years

Annual safety audit

We do it safely or not at all

ABB

Schneider Electric

ABTECH

EMERSON

HSE

주요생산물 및 서비스

Product & Service

New Chapter with all our Passion!

DEX Terminal Box (DongYang Ex - Ex “e”)

The DEX Terminal Box many standard sizes of enclosure manufactured in 316L acid resistant stainless steel to give the maximum environmental protection. Cable entries can be drilled in all sides or through the gland plates if fitted. Entries may also be drilled through the rear face of the enclosure. If you should have a particular requirement DongYang also can offer tailor made boxes. Sales staff will be happy to advise on this.

Promotional Video

DEX Range of Terminal Boxes

- General Information
- Installation
- Connection
- View - Real-time 3D module
- Ordering Codes
- Technical Data
- Safety Instructions
- Service and Maintenance

Appendix

- Explosion
- Classification of hazardous areas
- Degree of Protection Enclosure



www.exertcertification.com

www.e-dy.com



EXERT CERTIFICATION

Exert Certification has completed
the IECEx CSF certification of
Dongyang Industries Electric Co., Ltd.

Exert Certification wishes Dongyang Industries Electric Co., Ltd.
growth and successful business.



DONGYANG
INDUSTRIES ELECTRIC Co., Ltd.

IECEX - A single certification process applied worldwide!

IECEX CSF (Certified Service Facilities) 의 인증 기관인 Exert Certification은 동양산전 IECEX CSF 03-4 인증을 국내에서 발행 하였습니다.

2022년 2월 18일 Exert Certification은 동양산전 IECEX CSF 인증서가 발행 되었습니다.

발행된 인증서는 IEC 60079-17에 의거한 IECEX03-4 CSF (Certified Service Facilities) Program 4 : inspection and maintenance 입니다. 이 인증 제도는 제조 시설이 현재 폭발 위험을 안전하게 통제하고 관리 되는 것을 증명합니다.



" 동양산전의 한 IECEXCSF 인증을 수행하고 인증할 수 있어서 매우 기쁘고 영광입니다. 이는 Exert Certification에게 큰 이정표로 작용합니다."

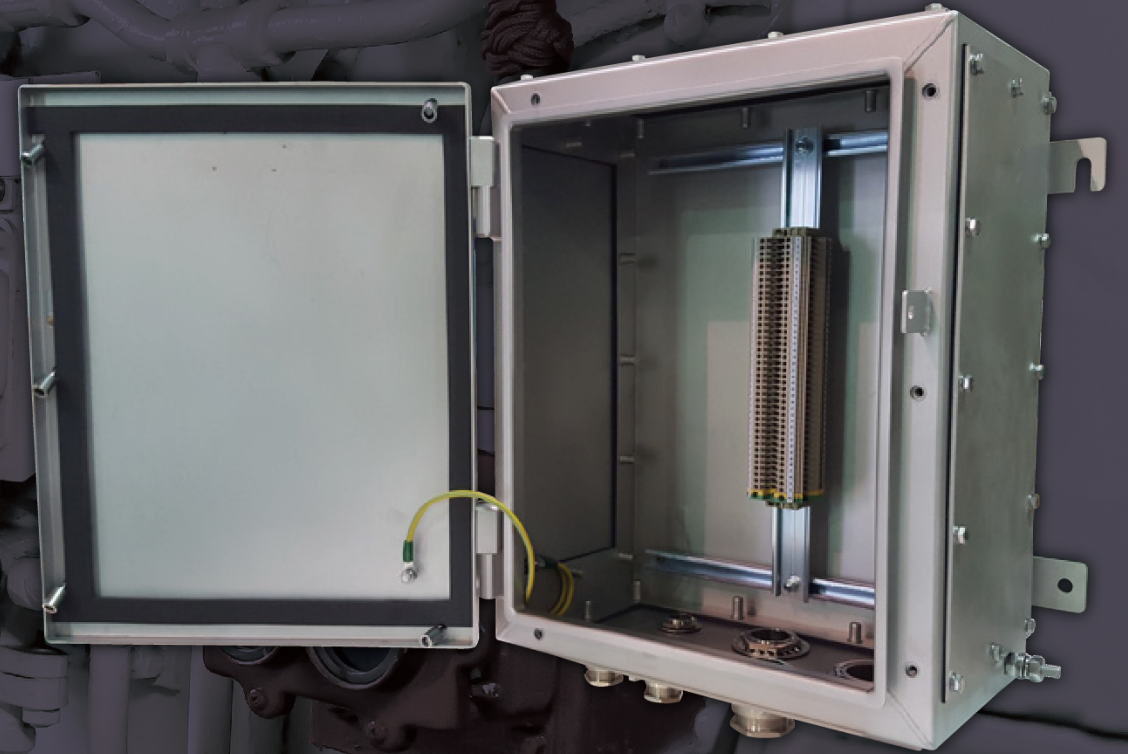
"이 과정에서 한국의 대표 기업인 동양산전과 협력하게 되어 영광이었고, 동양산전이 앞으로 더 많은 시설을 인증하기 위해 Exert Certification이 함께하기를 기원합니다"

Exert Certification CEO 이자 설립자인 Einar Thorén 이와 같이 소식을 전했습니다.

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Exert Certification is also approved as Certifying Body (CB) by IECEX for the Certificate of Personnel Competence scheme (CoPC) with assessment centres at many locations around the world.

**DEX Terminal Box
(DongYang Ex - Ex “e”)**





DEX TERMINAL BOXES

Creates and Challenges
for the Future

DONGYANG
INDUSTRIES ELECTRIC Co., Ltd.

www.e-dy.com

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

All DONGYANG employees are unified by their passion and commitment!
We will continually strive to take our business to the next level.



Promotional Video

Check out the vision of Dongyang Industries Electric Co., Ltd. to share the future!



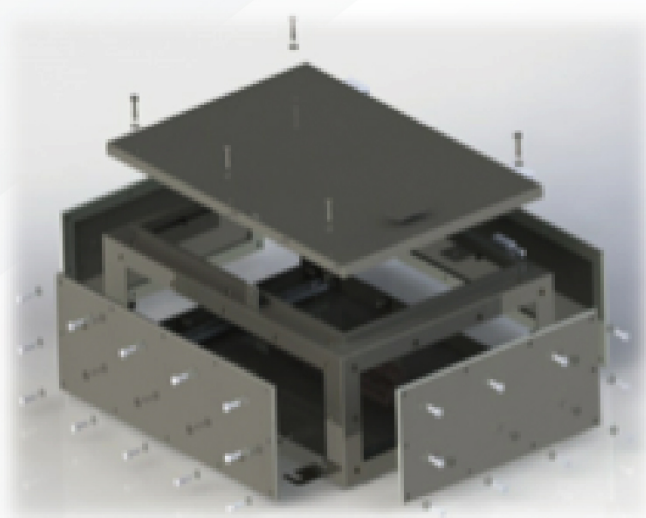
New Chapter with all our Passion!



General Information

Features

The **DEX** comprises many standard sizes of enclosure manufactured in 316L acid resistant stainless steel to give the maximum environmental protection. Cable entries can be drilled in all sides or through the gland plates if fitted. Entries may also be drilled through the rear face of the enclosure. If you should have a particular requirement, DongYang also can offer customized boxes with pleasure.



- › **Flexible product range** : Various standard sizes to fulfil customer need. Customized sizes upon request.
- › Ingress protection to meet the harsh environment with **IP66/67**
- › **Standard hinged doors** held to the enclosure by screws
- › Any cable entries possible. Gland plates and MCT frames upon request
- › Temperature range : -50°C to +80°C
- › Several earthing alternatives
- › Used as a connection box for intrinsically safe circuits
- › High voltage terminal and bus bar systems can be supplied
- › High operational reliability and cost efficiency, reduced lifetime maintenance costs
- › **ATEX** approvals



General Information

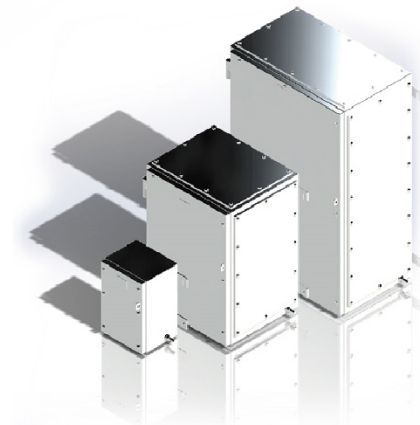
Applications

DongYang has supplied DEX enclosures to many application areas including the onshore/offshore Oil and Gas industries.

Our engineers are available to advise on the design and engineering parameters of our DEX enclosures and prepare a bespoke design if a standard size is not available.

DEX enclosures are fitted with machined solid block hinges and floating cage nuts that allow screws to locate, which saves on threads stripping and certification becoming invalid.

Available with full width, full height gland plates on 1, 2, 3 or 4 sides.



Specifications

Application		Industrial and Hazardous areas
Protection Degree		IP66 / 67
Certification		ATEX EEx e(Zone 1 & Zone 2)
Material		Stainless steel 316L(1.4404)
Temperature		-50°C to 40°C (T6 T85°C)
		-50°C to 55°C (T5 T100°C)
		-50°C to 80°C (T4 T135°C)
Approvals	Atex	CML 15ATEX3058
	IECEX	IECEX CML 15.0026
Standards		EN/IEC: 60079-0, 60079-7, 60079-11, 60079-31
Ex-Code		Ex e IIC T4/T5/T6 Gb
		Ex ia IIC T4/T5/T6 Ga
		Ex tb IIIC T85/T100/T135°C Db
		II 2 G Ex e IIC T4/T5/T6 Gb
		II 1 G Ex ia IIC T4/T5/T6 Ga
		II 2 D Ex tb IIIC T85/T100/T135°C
Cover gasket		Polyurethane (temp. -51°C to +90°C)
		Silicone (temp. -55°C to +200°C)
Surface treatment		Glass shot blasting & Passivation
Material thickness		Min. 1.5 mm (depending on the box size)

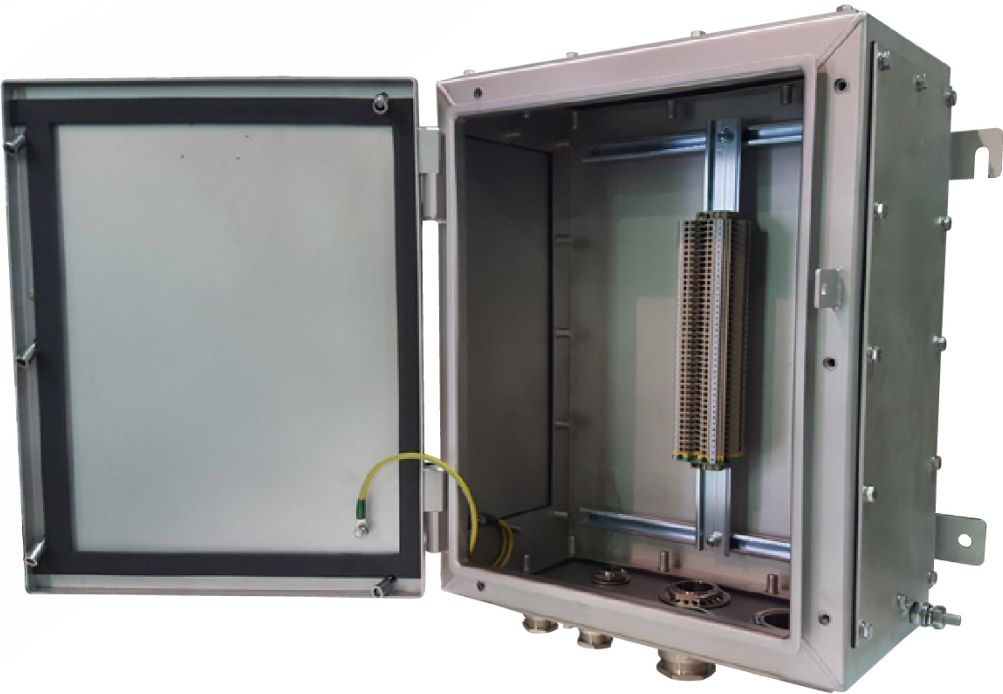
Installation

Max Power Dissipation(W)

Theoretical values are calculated based upon typical configurations. Maximum power must not be exceeded in any given terminal box. Maximum current per terminal must be calculated using the Maximum Heat Dissipation.

For some applications it may be necessary to have a variety of terminal sizes. The following tables and examples demonstrate how this is achieved.

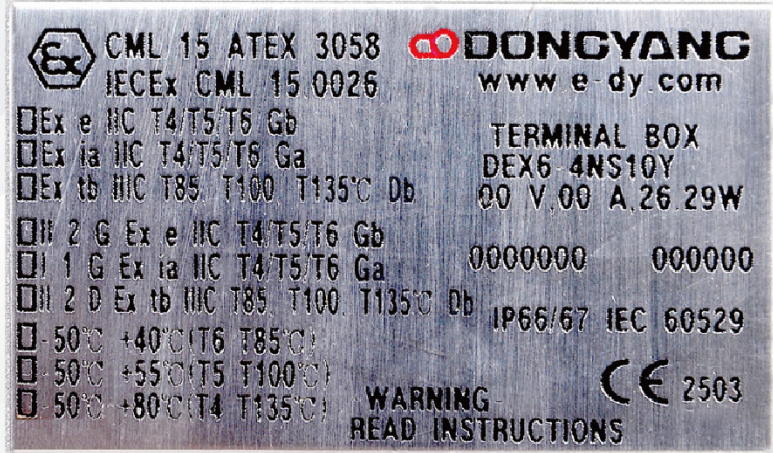
The power heat dissipation determines the maximum number of terminals permissible for any size of terminal box, based on a 100% load.



* Cable ambient
Warning “ Select cable for 40°C above ambient”

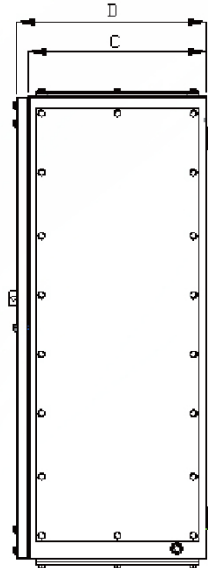
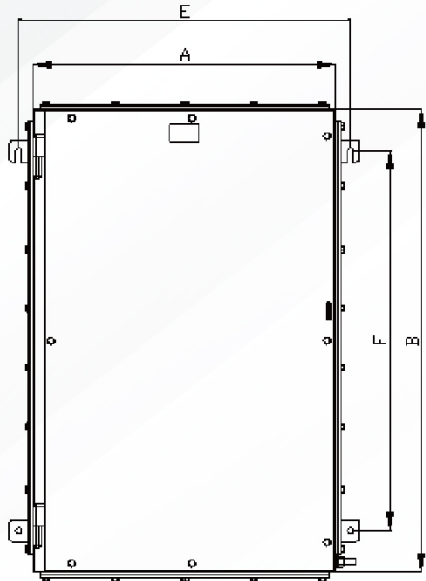
	T6	T5	T4
Series	Ta +40°C	Ta +55°C	Ta +80°C
DEX1	6.69W	6.69W	6.69W
DEX1A	8.36W	8.36W	8.36W
DEX2	9.57W	9.57W	9.57W
DEX3	11.45W	11.45W	11.45W
DEX4	17.88W	17.88W	17.88W
DEX5	25.13W	25.13W	25.13W
DEX6	26.29W	26.29W	26.29W
DEX7	26.92W	26.92W	26.92W
DEX7A	26.92W	26.92W	26.92W
DEX8	27.19W	27.19W	27.19W
DEX9	27.51W	27.51W	27.51W
DEX10	28.39W	28.39W	28.39W
DEX11	32.71W	32.71W	32.71W
DEX12	34.99W	34.99W	34.99W
DEX12A	34.99W	34.99W	34.99W
DEX13	52.4W	52.4W	52.4W
DEX14A	59.17W	59.17W	59.17W
DEX14	62.86W	62.86W	62.86W

Installation



Name Plate

- 1. Fixing Method – Welding
- 2. Letter Color – Black
- 3. Material – Stainless steel



Size of Model

	[mm]					
	A	B	C	D	E	F
DEX1	155	155	100	119	205	X
DEX1A	200	200	100	119	250	X
DEX2	185	275	140	159	235	160
DEX3	235	325	140	159.5	285	185
DEX4	305	305	200	219.5	355	165
DEX5	325	375	200	219.5	375	235
DEX6	375	450	200	219.5	425	310
DEX7	375	510	200	219.5	425	370
DEX7A	510	375	200	219.5	560	235
DEX8	375	510	300	319.5	425	370
DEX9	510	510	200	219.5	560	370
DEX10	510	510	300	319.5	560	370
DEX11	510	780	200	219.5	560	640
DEX12	510	780	300	319.5	560	640
DEX12A	1100	510	300	319.5	1150	370
DEX13	650	950	300	319.5	700	810
DEX14	800	1250	300	319.5	850	1110
DEX14A	1200	670	300	319.5	1250	530

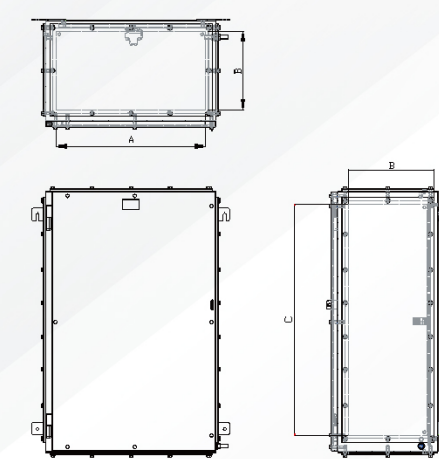
The fixing part is made of 3mm thickness plate.
The setting can be completed with screw or other fixing stuff (ex. Bolt) into 10mm diameter hole.



Connection

Max Power Dissipation(W)

Cable gland and herb etc can be used. Use explosion-proof products and products which are suitable for IP 66/67 grade. The clearance holes for plain entries shall have a diameter not more than 0.7mm greater than the nominal diameter of the entry thread gland or fitting. The inside of the enclosure shall be provided with sufficient room to attach a locknut to the gland or fitting.



* Maximum number of Cable and Wire Entries

The available area for cable entry holes is calculated as follows.

(Length of gland plate – 30mm) × (Height of gland plate – 30mm)

Minimum necessary area of cable gland thread diameter is given in below table.

Required Area /ea	Cable Gland Thread Diameter						
	≤ 12mm	≤ 16mm	≤ 20mm	≤ 25mm	≤ 32mm	≤ 40mm	≤ 50mm
	290mm ²	520mm ²	820mm ²	1,270mm ²	2,080mm ²	3,250mm ²	5,050mm ²

* Cable and Wire entries

	DEX1	DEX1A	DEX2	DEX3	DEX4	DEX5	DEX6	DEX7	DEX7A	DEX8	DEX9	DEX10	DEX11	DEX12	DEX12A	DEX13	DEX14	DEX14A
A	X	X	X	191	261	281	331	331	446	331	466	466	466	466	1036	606	756	1136
B	X	X	X	96	156	156	156	156	136	256	156	256	156	256	236	256	256	236
C	X	X	X	253	216	286	361	421	286	421	421	421	691	691	421	861	1161	581

[mm]

Calculation Example

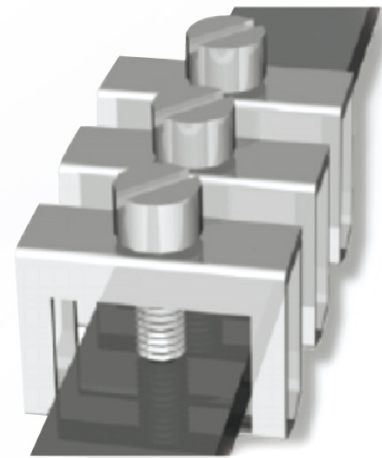
- Cable gland plate : 326 × 196
- Desired cable entries : M20(12ea), M40(5ea)
- Available area = 296 × 166 = 49,136
- Required area = (820 × 12) + (3250 × 5) = 26,090
- We can install the 17 cable entries and have extra area, 23,046mm²
- Caution : Unused hole should be blanked with certified blanking element.



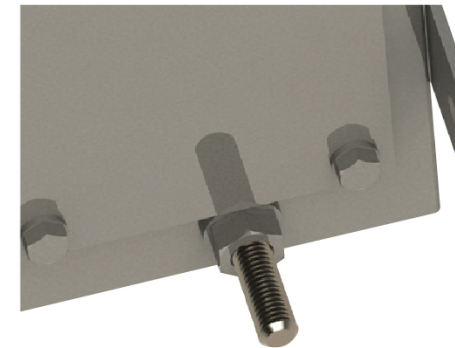
Connection



Full width, full height Gland Plates
(can be fitted to any or all sides)



Internal Earthing bar
(can be fitted with clamps)



**Earth Stud fitted to door
and gland plates**



Component Mounting Plate
(steel or stainless steel 316L)

VIEW

Real-time 3D module

Creates and Challenges for the Future

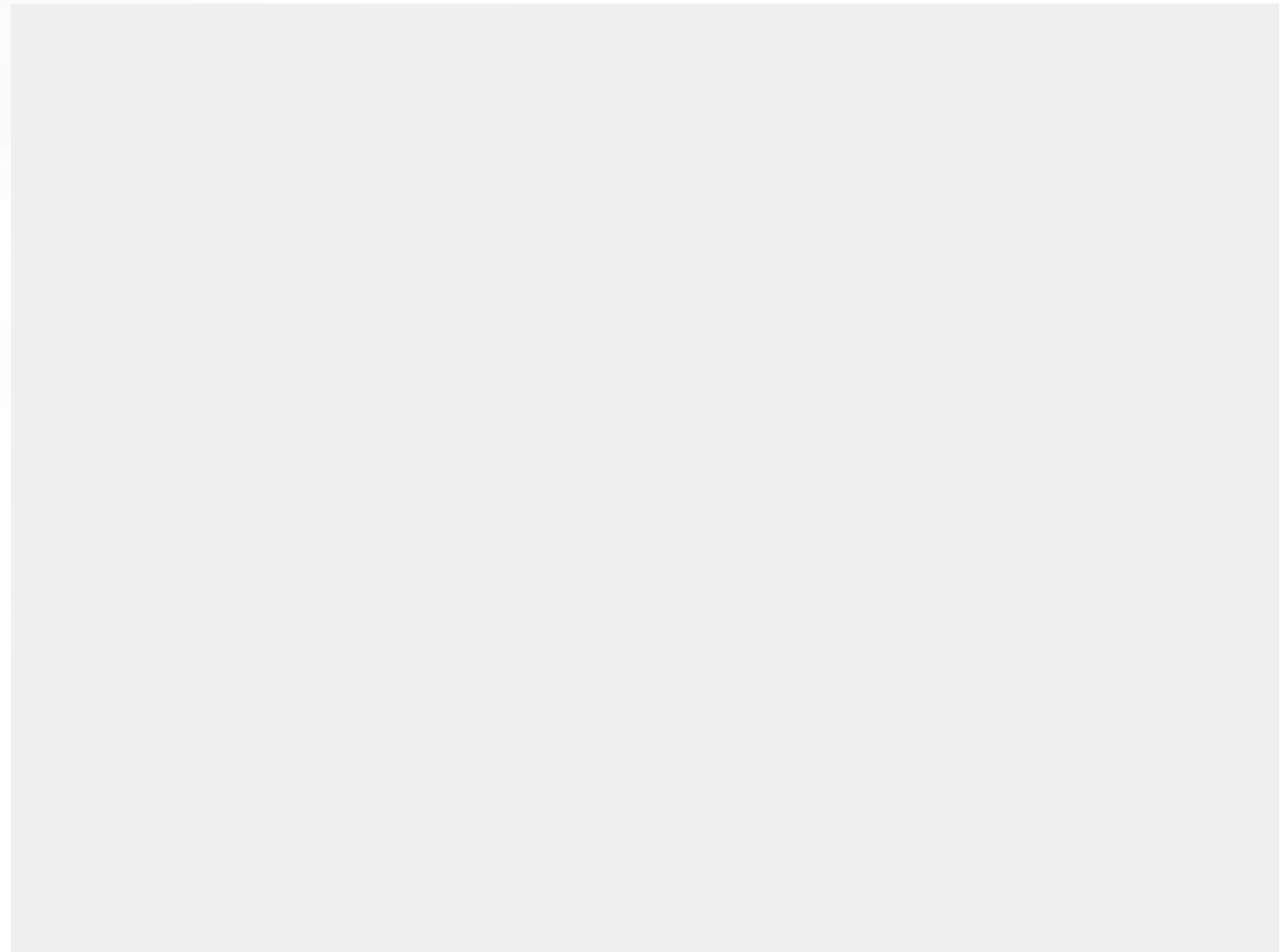
DEX RANGE OF TERMINAL BOXES

If you should have a particular requirement,
DongYang also can offer customized boxes with pleasure

www.e-dy.com

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

All DONGYANG employees are unified by their passion and commitment!
We will continually strive to take our business to the next level.





Ordering Codes

The option of each of the models is follows

Ex) DEX

3

3

N

S

8

Y

Model Name	Gland Plate	Mounting Plate	Security (Locking Device)	Ground stud	Breather Drain
DEX1 ~ 14	0 : None	N: None	N: None	Ø 6mm	N: None
	1 : One bottom	M: Mounting Plate	S: Security	Ø 8mm	Y: Yes
	3 : Two side and bottom			Ø 10mm	
	4 : All sides				

* Earthing is optional(Internal earth bar/braket). * Drain Plug is optional. * Gland Plate is optional.



Technical Data

Certification	Standards
IECEX	IEC 60079-0 : 2011
	IEC 60079-7 : 2006
	IEC 60079-11 : 2011
	IEC 60079-31 : 2013
ATEX	EN 60079-0 : 2012
	EN 60079-7 : 2007
	EN 60079-11 : 2012
	EN 60079-31 : 2014

Type of protection	Ex markings
Increased safety “e” Intrinsic safety “i” Protection by enclosure “t”	Ex e IIC T4/T5/T6 Gb
	Ex ia IIC T4/T5/T6 Ga
	Ex tb IIIC T85/T100/T135°C Db
	II 2 G Ex e IIC T4/T5/T6 Gb
	II 1 G Ex ia IIC T4/T5/T6 Ga
	II 2 D Ex tb IIIC T85/T100/T135°C

Type of protection	Warning
All	Temperature at branching point may reach 40°C above ambient.
Ex e and Ex ia	Do not open when energized if the enclosure contains both intrinsically safe and non-intrinsically safe connections.
Ex e	Do not open when energized.
Ex ia	When used for Ex ia applications, over-power fault protection shall be provided and shall take into account the 'EPL' fault requirements For EPL Ga – accounting for two faults applied to the current or/and voltage limiter. For example an [Ex ia] barrier.

Ambient temperature	T(Gas)	tb(Dust)
-50°C ~ +40°C	T6	T85°C
-50°C ~ +55°C	T5	T100°C
-50°C ~ +80°C	T4	T135°C

Ratings

Voltage	Max. 1100V AC/DC(depend on terminal blocks)
Current	Max. 452A(depend on terminal blocks)
Ingress protection	IP66 / IP67 IEC/EN 60529
Surface finishing	Glass shot blasting & Passivation
Impact	IK10 (20J) IEC/EN 62262



Safety Instructions

1. Requirement for safe use

This terminal box left the factory in good working condition. In order to maintain this status and to ensure safe operation of the terminal box, observing these instructions and all the specifications are relevant to safety.

2. Use in hazardous area

Persons who install, connect commission, operate, and service the terminal box in a hazardous area must have the following specific qualifications:

- › They are authorized, trained or instructed in operating and maintaining equipment and systems according to the safety regulations for electrical circuits and hazardous area.
- › They are authorized, trained, or instructed in carrying out work on electrical circuits for hazardous systems.
- › They are trained or instructed in maintenance and use of appropriate safety equipment according to the pertinent safety regulations as IEC/EN 60079-14





Service and Maintenance

Warning : Do not open when energized

The IEC/EC standards and national regulations applicable to the maintenance of electrical equipment in explosion hazard areas must be observed(IEC/EN 60079-17).

Repair and maintenance work on the enclosures should be performed only by authorized personnel with the appropriate training.

Maintenance and servicing is performed based on IEC/EN 60079-17. As part of the maintenance, in particular, the seals, the fastening system, cable and wire entries. The maintenance intervals must be chosen depending on the operating conditions and the operating time.

When maintenance work is performed on intrinsically safe terminal enclosures, care must be taken to ensure that no circuit dependent dangerous remote effects can occur.

1 Year, parts and labor

Head Office & 1st Factory 23, Maegoksaneop 1-gil, Buk-gu, Ulsan, Korea

Tel +82-52-701-7000 **FAX** +82-52-707-7050



APPENDIX



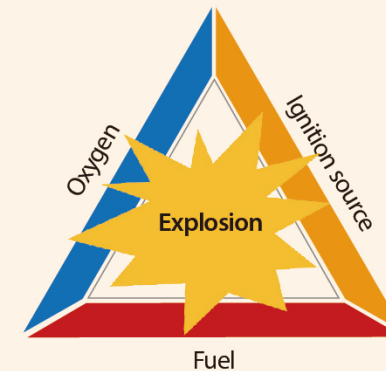
Better Understanding leads to Better Choice

DongYang focuses on developing innovative and technologically advanced solutions to the challenges our customers are facing by combining expertise in electronic engineering with over 30 years' experience at the forefront of Hazardous Area protection concepts.



Explosion

An explosion is defined as a sudden reaction involving a rapid physical or chemical oxidation reaction or decay generating an increase in temperature or pressure or both simultaneously. The most familiar reactions are those of flammable gases, vapours or dust with the oxygen contained in the air.



Basic for an explosion

As a rule, for explosions to happen in atmospheric air, three factors have to be present at the same time:

- * oxygen(air)
- * flammable substance
- * source of ignition

In production and work places an increased risk of explosion can develop wherever the preconditions for an explosion are fulfilled. Typical hazardous areas form in mills and stores for milled products and other combustible dusts.

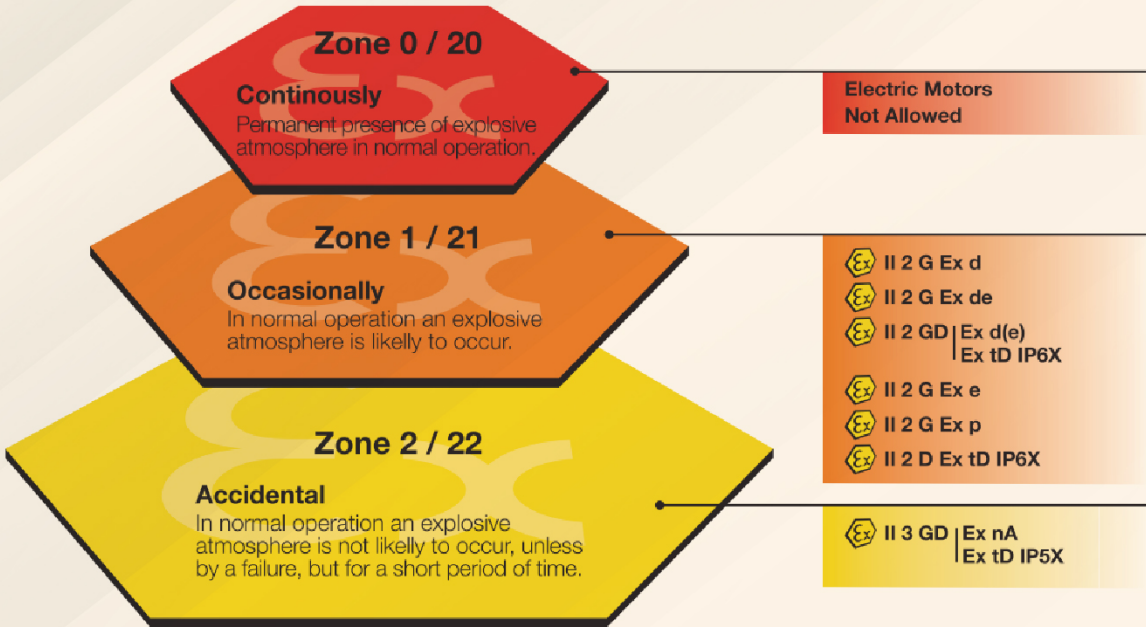
The first two components - the flammable substance and air - must be present in sufficient quantities to form an explosive atmosphere. The statutory definitions of explosion protection - deduced from the regulations on health and safety at work - are concerned with work places. For this reason discussions about explosion protection are usually restricted to reactions with the oxygen in the air.

Oxidation reactions normally involve the release of heat and a pressure increase, and therefore fulfil the criteria of an explosion.

It is generally assumed that a volume of 10 l of an explosive mixture in an enclosed space can cause damage - particularly to people. For this reason, any area in which such a volume of an explosive mixture can collect is described as a hazardous area.



APPENDIX



APPENDIX



Degree of Protection Enclosure

First Figure Indicates protection against dangerous access and solid foreign objects

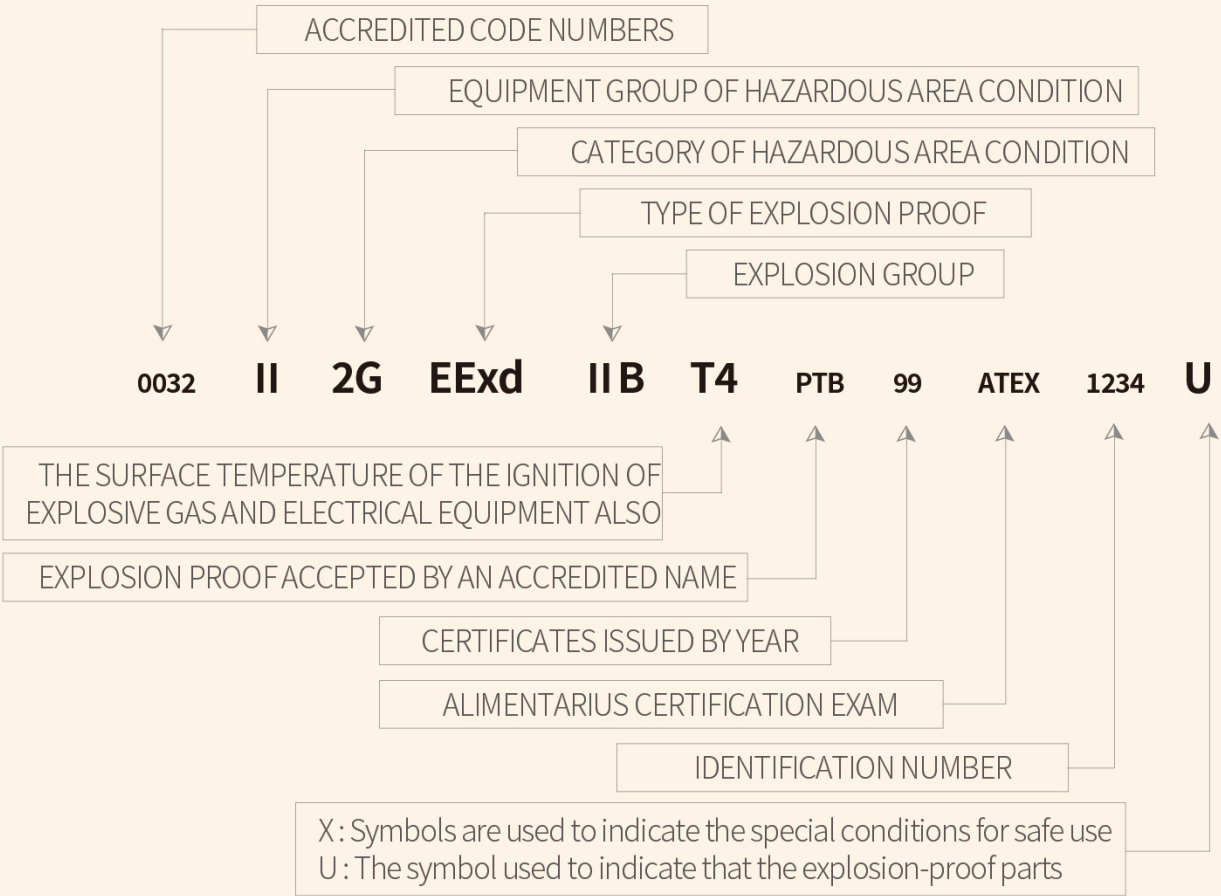
IP

Second figure indicates protection against water penetration

Non-protected	0	0	Non-protected
Protected against solid object Ø 50mm or more	1	1	Protected against vertically falling water drops
Protected against solid object Ø 12.5mm or more	2	2	Protected against vertically falling water drops when enclosure tilted up to 15°
Protected against solid object Ø 2.5mm or more	3	3	Protected against spraying water when up to 60° from vertical
Protected against solid object Ø 1mm or more	4	4	Protected against splashing water from any direction
Dust protected	5	5	Protected against jets of water from any direction
Dus-tight	6	6	Protected against powerful jets of water from any direction
	7		Protected against immersion
	8		Protected against continuous immersion

According to IEC/EN 60529

Explosion-proof general notation symbols



시험 설비 시설 구축

Test Equipment Facilities Construction

New Chapter with all our Passion!

Generator Sync Test Set and High-Current Test

DongYang Industries Electric Co. invests in diverse facilities and equipment

We can satisfy our customers' diverse demands through the operation of various processing facilities and test equipment.

Installation Purpose

Hi-Current Test – Temperature Rise Test

○ M/G SET - Main Switch Board

○ M/G SET - Simulation Video

○ M/G SET - Introduction of test equipment

M/G Set Test – Generator Load Synchronization Test

○ Hi-Current - System Configuration

○ Hi-Current - Simulation Video

○ Hi-Current - Introduction of test equipment

Installation Purpose

Features

Main purpose is to obtain the technical power through the data management on the applicable tests as well as to secure additional reliability of our products, as building the in-house test facilities associated with generator load synchronization test [M/G Set] and temperature rise test [Hi-Current Test] which are conducted in the middle of switchboard test.

- The generator load synchronization test is on the basis of the Inspection Test Procedure
- The temperature rise test is on the basis of the IEC 61439-1.

M/G Set Test – Generator Load Synchronization Test

Hi-Current Test – Temperature Rise Test



Installation Purpose

Hi-Current
System Configuration

Hi-Current
Simulation Video

Hi-Current
Introduction

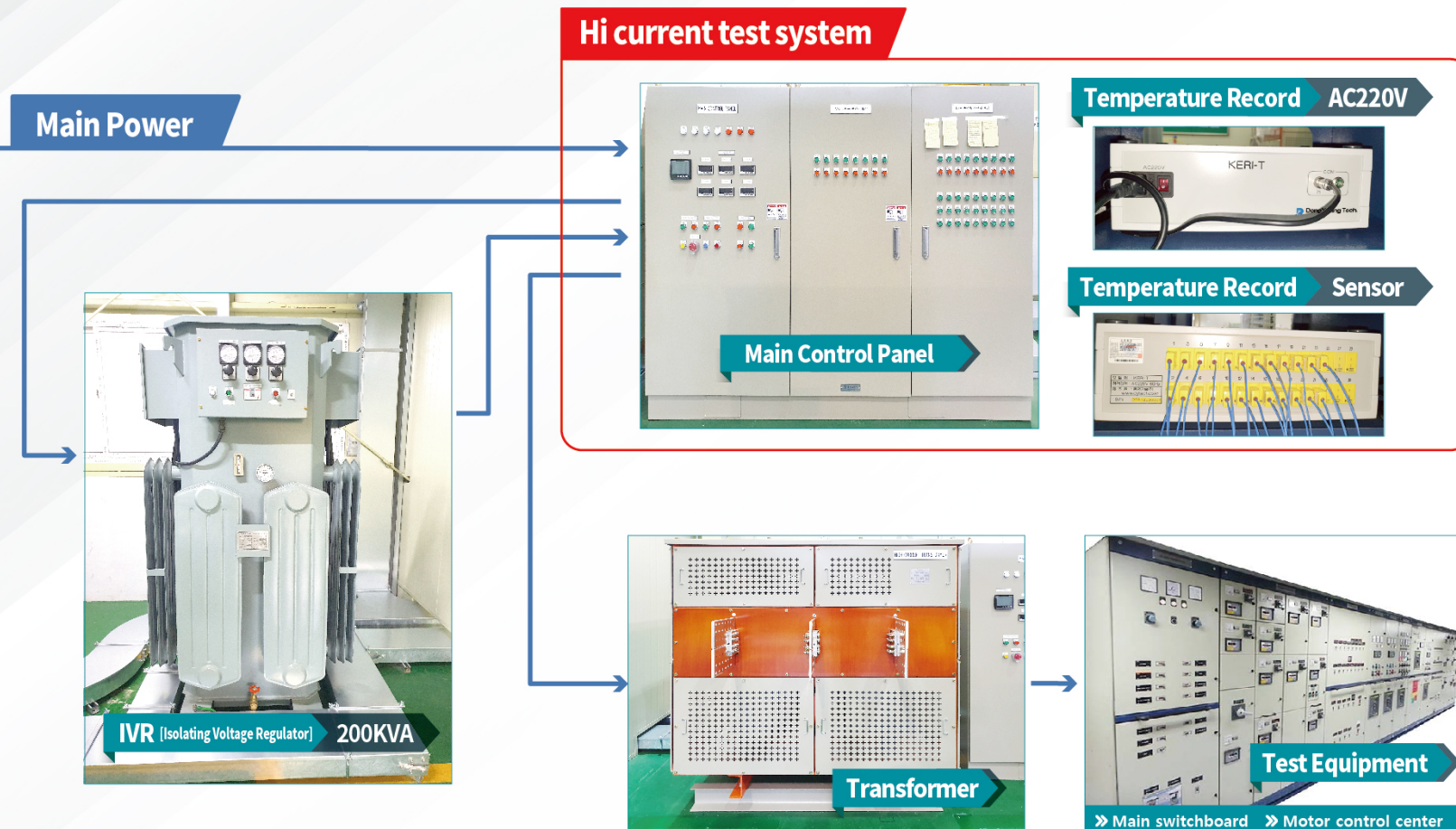
M/G SE
Main Switch Board

M/G SET
Simulation Video

M/G SET
Introduction



Hi-Current System configuration



✓ Hi-Current System configuration

Hi current test system is to test the safety and stability of electric power system through temperature rising test

✓ Temperature Rise Test

✓ Test Purpose

- The risk of fire due to excessive temperature rise in each part of the device when operating under normal and abnormal conditions
- The possibility of burn by the user
- The risk of electric shock due to the destruction of insulation materials and deformation of plastic parts

✓ Test Procedure

- 01 To measure the temperature rise by feeding the maximum current to the main feeder, start unit for a certain period of time
- 02 Test accepted, if temperature rising is within a given criteria when the temperature is saturated and maximum testing time passed
- 03 If test failed, retest shall be proceeded after rework

Installation Purpose	Hi-Current System Configuration	Hi-Current Simulation Video	Hi-Current Introduction	M/G SE Main Switch Board	M/G SET Simulation Video	M/G SET Introduction
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Test Equipment Facilities Construction

High-Current Test

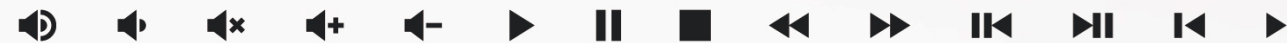
New Chapter with all our Passion!

Simulation Video

Hi-Current System (700~8,000A)



DONGYANG
INDUSTRIES ELECTRIC Co., Ltd.



Installation Purpose

Hi-Current
System Configuration

Hi-Current
Simulation Video

Hi-Current
Introduction

M/G SE
Main Switch Board

M/G SET
Simulation Video

M/G SET
Introduction

Hi-Current System(700~8,000A)

Transformer Pri.380V, 547A / Sec.26V, 8000A



IVR [Isolating Voltage Regulator] 200KVA



MAIN ELECTRIC ROOM AC 380V, 400KW

Installation Purpose

Hi-Current
System Configuration

Hi-Current
Simulation Video

Hi-Current
Introduction

M/G SE
Main Switch Board

M/G SET
Simulation Video

M/G SET
Introduction



Hi-Current System

KERI-T Temperature Record AC220V



KERI-T Temperature Record Sensor



Main Control Panel



M/G SET - Main Switch Board

M/G SET

- ✓ MOTOR & GENERATOR
- ✓ LOAD BANK
- ✓ CONTROL PANEL
- ✓ SIMULATOR
- ✓ DIST PANEL

Test Purpose

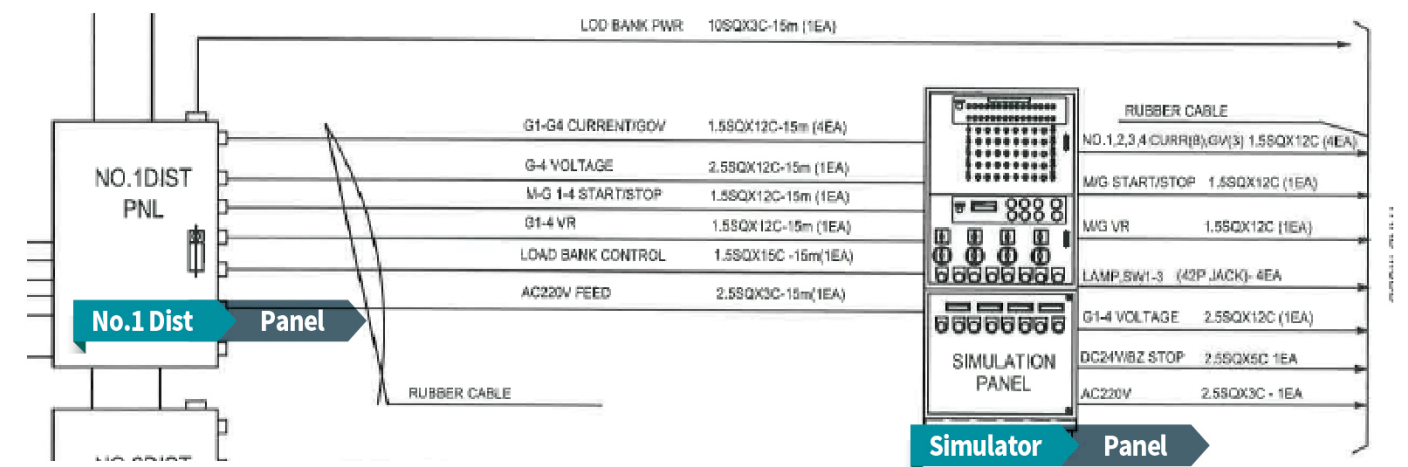
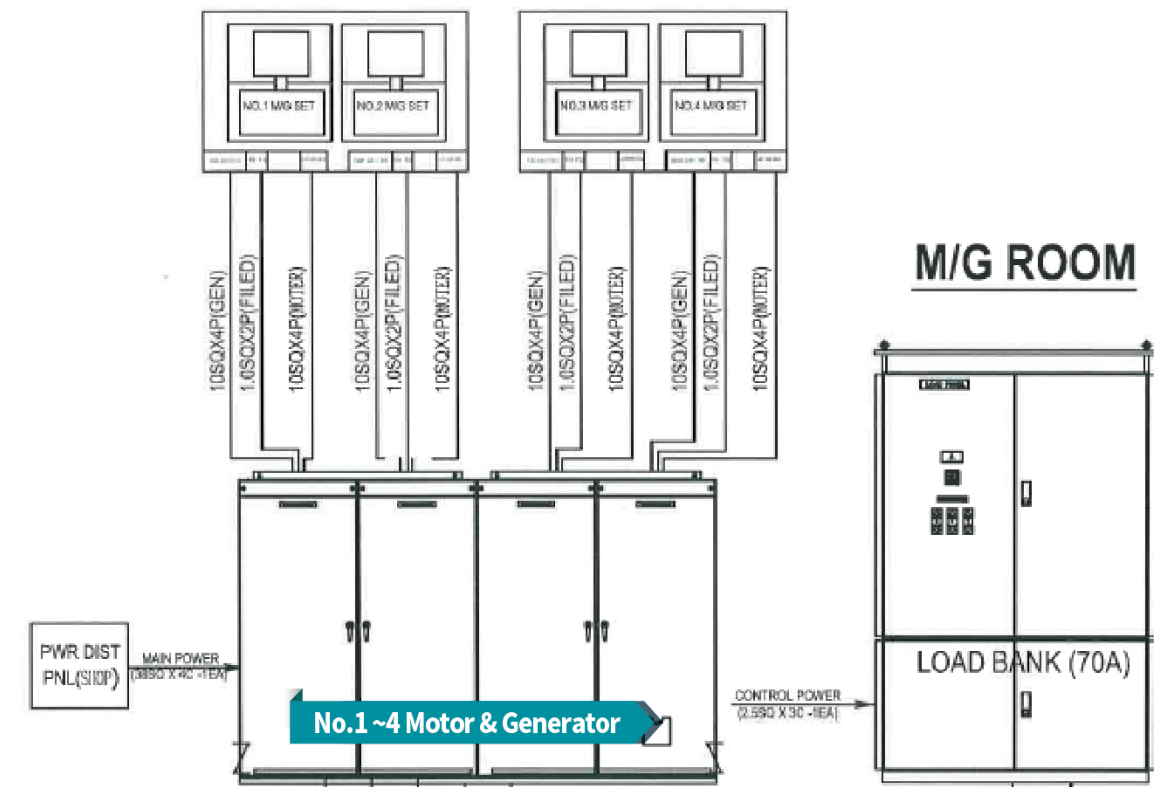
- 01 The operation & synchronization of main switchboard(MSBD) in the same condition with ship.
- 02 The mode of auto & manual synchronization with load increased in the load bank.

» Auto mode is operated as follows.

When PMS is automatically sharing load and the load is increased, other generator is automatically involved and the load can be distributed.

» Manual mode is operated as follows.

Load can be distributed by directly involving other generator after manual synchronization using governer.



Installation Purpose	Hi-Current System Configuration	Hi-Current Simulation Video	Hi-Current Introduction	M/G SE Main Switch Board	M/G SET Simulation Video	M/G SET Introduction
----------------------	---------------------------------	-----------------------------	-------------------------	--------------------------	--------------------------	----------------------

Test Equipment Facilities Construction

Motor & Generator Set

New Chapter with all our Passion!

Simulation Video

Generator Load Synchronization Test



Installation Purpose

Hi-Current
System Configuration

Hi-Current
Simulation Video

Hi-Current
Introduction

M/G SE
Main Switch Board

M/G SET
Simulation Video

M/G SET
Introduction



M/G Set Test – Generator Load Synchronization Test

No.1 ~4 Motor & Generator M/G SET

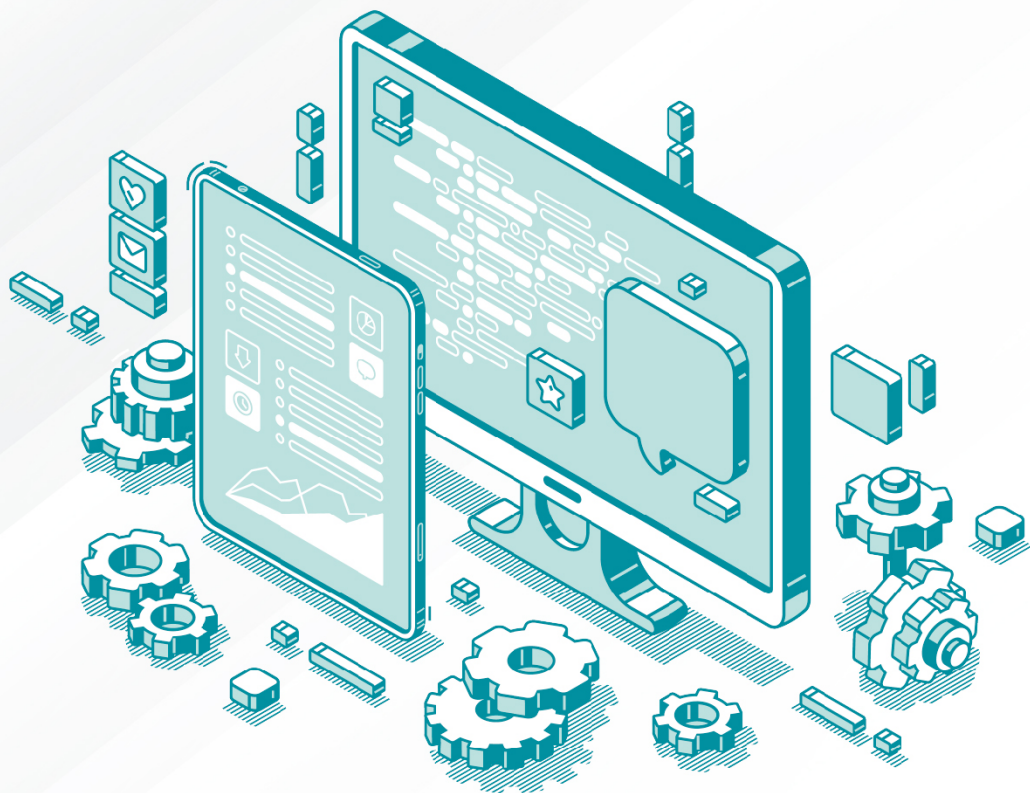


M/G Control Panel M/G SET



Installation Purpose	Hi-Current System Configuration	Hi-Current Simulation Video	Hi-Current Introduction	M/G SE Main Switch Board	M/G SET Simulation Video	M/G SET Introduction
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M/G Set Test – Generator Load Synchronization Test



No.1 Dist Panel



Simulator Panel

설비현황 Equipments

New Chapter with all our Passion!



● **Bending Machine** (AMADA HDS-1303 NT)



● **Laser Machine** (AMADA Fo-3015NT)



● **CNC PUNCH PRESS** (MURATA MOTORUM-2048LT)



● **CNC PRESS BRAKE** (MURATA HPB-8525AT 6NS)



● **BUS BAR Machine** (WJBB-310)



● **PRESS BRAKE** (AMADA RG-80)



● **PUNCHING PRESS** (WJPPF-460A)

COMPANY INTRODUCTION

**STAYING ONE STEP AHEAD
GLOBAL LEADER, DONGYANG**

All DongYang employees are unified by
their passion and ommitment!

We will continually strive to take
our business to the next level.



DONGYANG

Endurance & Overcoming 2021 Reversal & Recovery 2022

Electrical equipment that helps stable, efficient and safe use of electricity!

Dongyang Industries Electric Co., Ltd.
an electrical equipment manufacturer

Dongyang Industries Electric Co., Ltd. serves as a TOTAL SYSTEM PROVIDER, and is a production company of a consistent system that purchases raw materials from steel plates and makes final finished products.

We manufacture various types of distribution boards including MCC, MSBD, ESBD, GSP, console, etc. and develop and deliver products in Offshore and plant markets.

We provide professional resources for design, construction, QA & QC and commissioning, and we can deploy professionals for development, design, manufacturing, distribution, installation and commissioning to meet all the needs of our domestic and global customers.

COMPANY INTRODUCTION

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

All DongYang employees are unified by
their passion and ommitment!
We will continually strive to take
our business to the next level.



DONGYANG

Combining over 30 years of know-how and unique skills

Since its establishment in 1988, Dongyang Industries Electric Co., Ltd. has produced all 20 electrical equipment necessary for the ship's operating system and delivered it to domestic and global companies.

In order to carefully manage the process of the project and ensure the best safety in use, we built our own in-house laboratory similar to the actual installed conditions to export our headquarters products with the world's highest quality.

In addition, we have developed and delivered products in the offshore and plant markets, and in 2017, we established an assembly plant in Vietnam and entered the Southeast Asian market.

COMPANY INTRODUCTION

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

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our business to the next level.



DONGYANG

Uniform manufacturing process through efficient design through company standardization module

Standardized design was able to shorten the assembly process,
reduce development and cost, and maximize work efficiency.

We will expand our business to the electricity and equipment
sector and expand our business, while securing professional
corporate capabilities by dualizing our existing production
systems to quickly respond to changes and opportunities in
the domestic and global markets.

In 2022, we will maintain the status of the No. 1 distribution team by
securing unrivaled order capabilities, continuous development of new
products, and price competitiveness.

In the future, we will provide professional resources for "Dongyang
Industries Electric Co., Ltd. " and deploy and reinforce professional
manpower to provide you with the best eco-friendly quality in the world.

DONGYANG
INDUSTRIES ELECTRIC Co., Ltd.



Promotional Video

Check out the vision of Dongyang Industries Electric Co., Ltd. to share the future!



STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

회사개요

COMPANY Overview

New Chapter with all our Passion!

How to contact DongYang

If you require any additional information regarding our product, please contact us at one of the listed locations.

You can also learn more about our company and product from our website, www.e-dy.com.

HEADQUARTERS

TEL: +82-52-701-7000

FAX: +82-52-707-7050

OVERSEAS SALES DEPARTMENT

TEL: +82-52-701-7122

FAX: +82-52-707-7050

R&D Center

TEL: +82-52-701-7060

FAX: +82-52-707-7050

Available Services from DongYang

We can provide satisfaction beyond our customers expectations by placing a professional workforce in the development, design, production, distribution, installation, and commission processes.



ISO 14001:2015 / ISO 45001:2018 CERTIFIED



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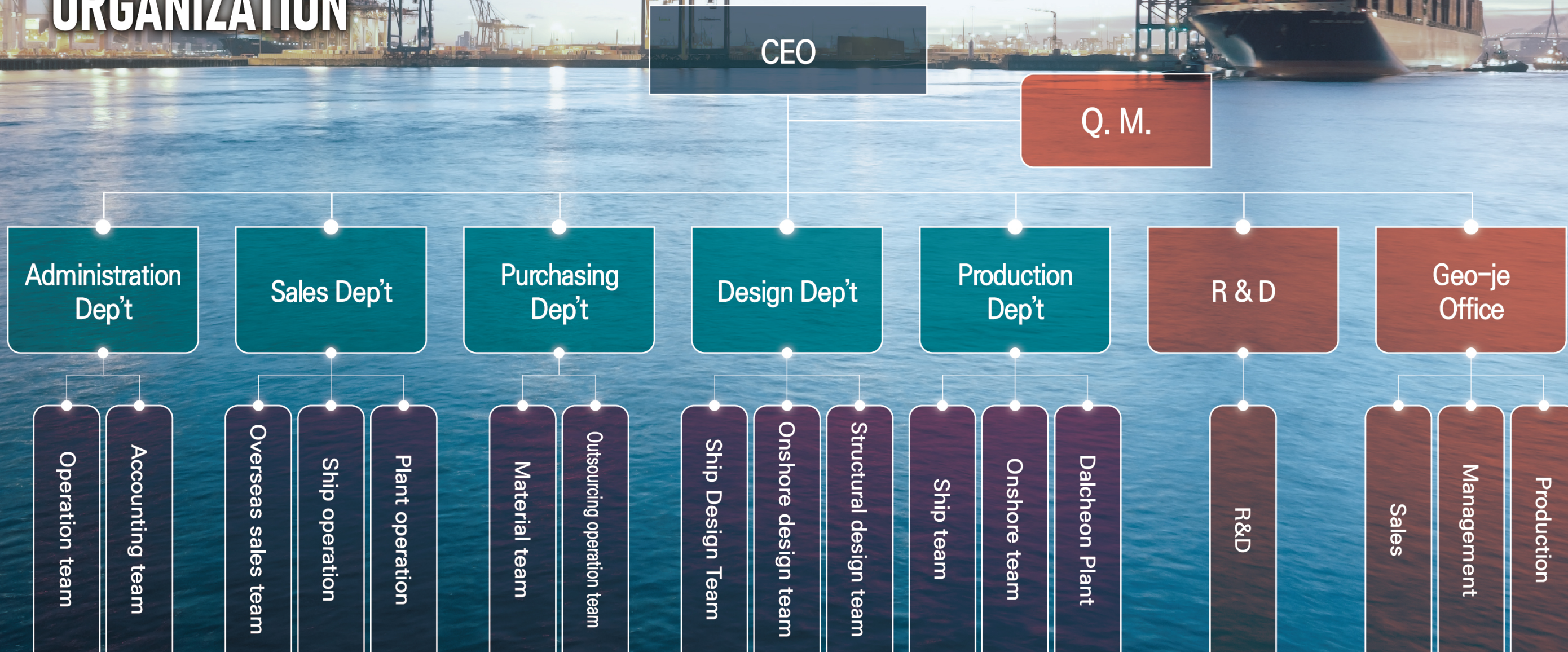
Certificates

PARTNER

조직도

ORGANIZATION

New Chapter with all our Passion!



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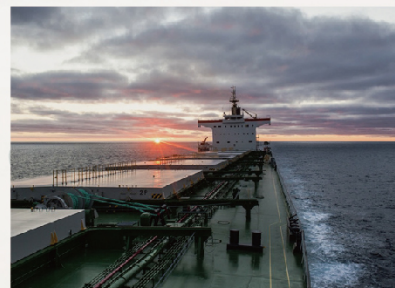
PARTNER

사업장 및 지사 현황

Sales and Service Network

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

All DONGYANG employees are unified by their passion and ommitment!
We will continually strive to take our business to the next level.



OVERVIEW

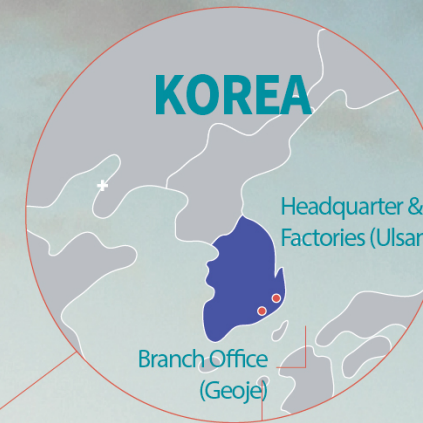
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PARTNER



HEADQUARTER & 1st FACTORY

23, Maegoksaneop 1-gil, Buk-gu, Ulsan, Korea
TEL:+82-52-701-7000 / FAX:+82-52-707-7050

2nd FACTORY

36, Nonggongdangi 1-gil, Buk-gu, Ulsan, Korea
TEL:+82-52-701-7099 / FAX:+82-52-707-7058

BRANCH OFFICE(GEOJE)

71-3, Sangdong 3-gil, Geoje-Si, Gyeongsangnam-do, Korea
TEL:+82-55-701-7021/FAX:+82-55-635-7039



VIETNAM CORPORATION

01, My Giang, Ninh Phuoc Ninh Hoa, Khanh hoa Province, Viet Nam
TEL +82-52-701-7191

New Chapter with all our Passion!



회사연혁 COMPANY History

New Chapter with all our Passion!

● 1988~2006

- Established DONGYANG
- Registered as a subcontractor of HHI & HMD
- Incorporation DONGYANG Industries CO.,Ltd
- Moved factory(Dalcheon-dong, Buk-gu, Ulsan)
- Achieved ISO9001 Cert.

● 2007~2008

- Registered as a subcontractor of SHI
- Moved to current location
- Established Geo Je branch office
- Established R&D Dept.
- Achieved ISO14001, INNO BIZ Cert.

● 2009~2012

- Partnership agreement with Emerson Group SPX
- Registered as a subcontractor of DSME
- Partnership agreement with AEG Power Solution
- Partnership agreement with Schneider

● 2013~2015

- Three Million Dollar Export Award from President
- Achieved OHSAS18001 Cert.
- Partnership agreement with ExxonMobil
- Partnership agreement with ABB
- Established DONGYANG ENGINEERING
- Established DONGYANG Vina
- Five Million Dollar Export Award from President

● 2016 ~ 2020

- Partnership agreement with NORIS Group
- Awarded meritorious citation for KOREA Offshore & Shipbuilding Day
- Established Daesan branch office
- Established HASUNG ENGINEERING
- Awarded MOTIE(Ministry of Trade, Industry and Energy) prize
- Builded HI CURRENT System
- Supply of 741 panels such as HPC PJT performance 6.9KV.
- MOU signed with "Korea National Oil Corporation" regarding the design and manufacture of Ulsan offshore wind power substation.
- Participation in the floating offshore wind power International Forum 2020 (DongYang Engineering - Supply Chain Announcement)

● 2021~

- **Supply of Ex Equipment & Conduct of Daesan Factory NCC Explosion-proof Performance Improvement Work as LG Chem PJT**
- **Achieved IECEx Certified Service Facility Cert**

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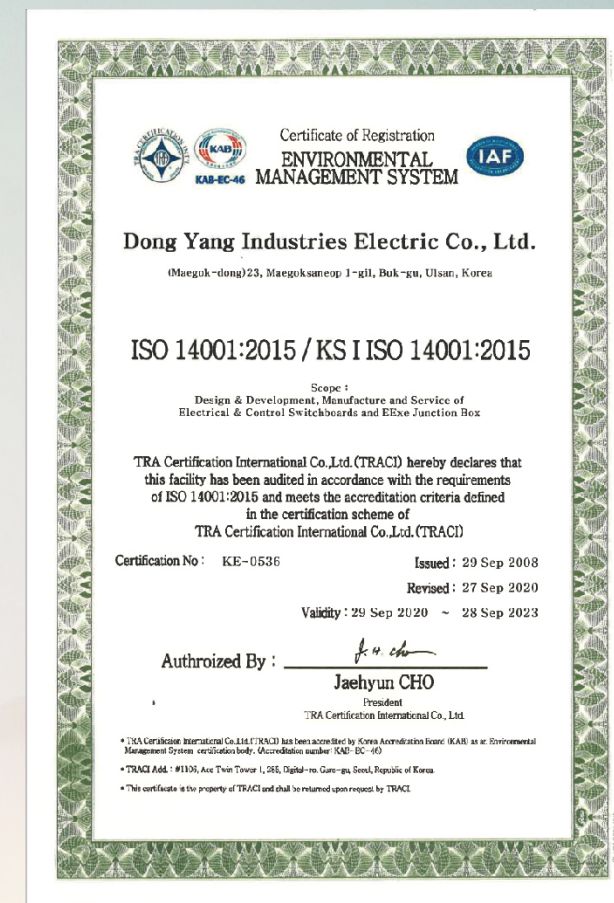
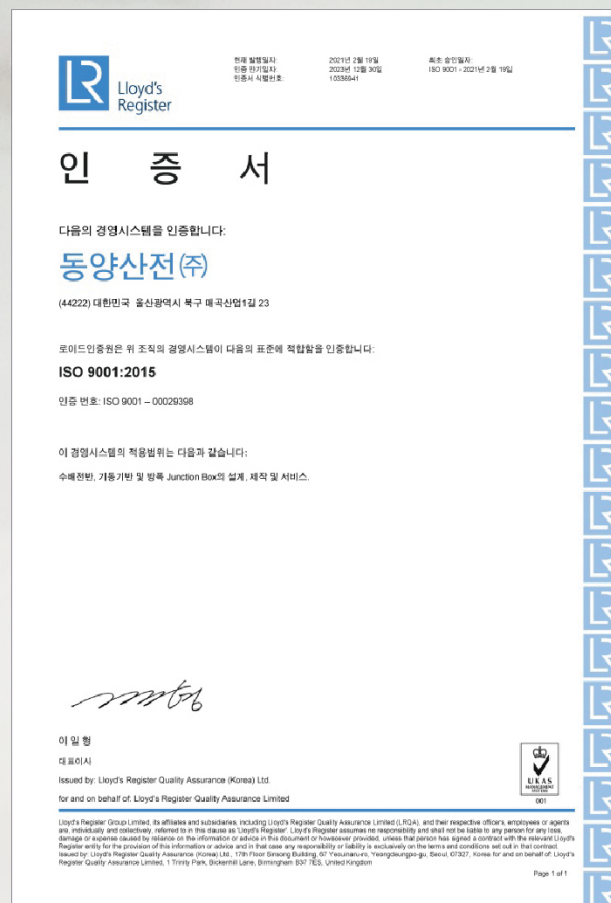
Certificates

PARTNER

특허 및 디자인 등록증 Certificates of Patent

New Chapter with all our Passion!

ISO 9001:2015 / 45001:2018 / 14001:2015



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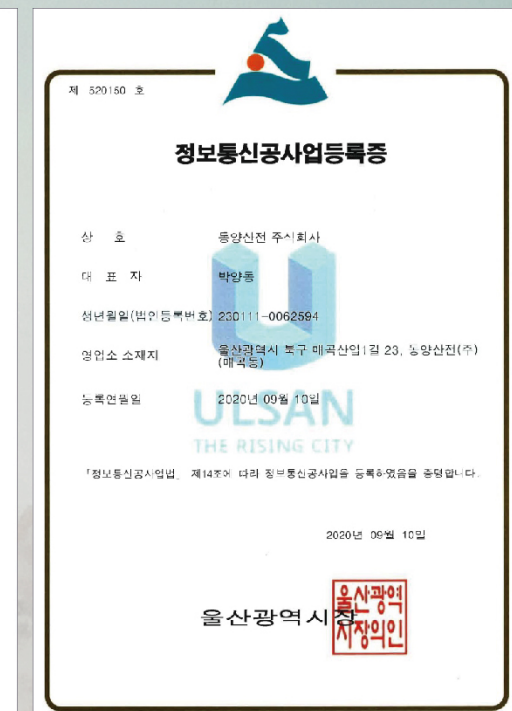
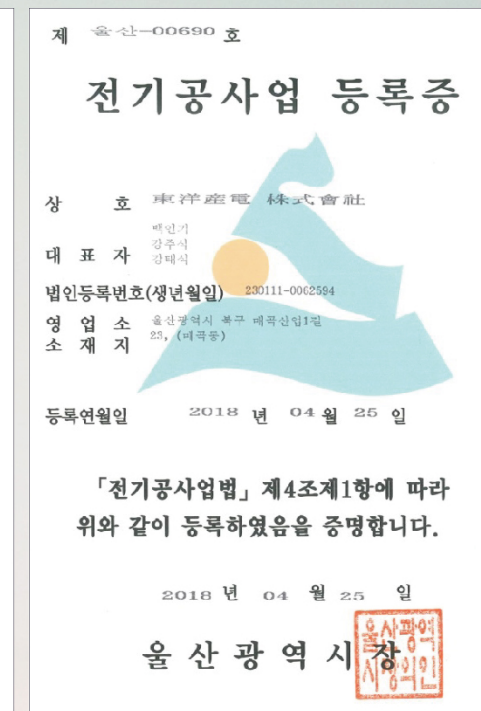
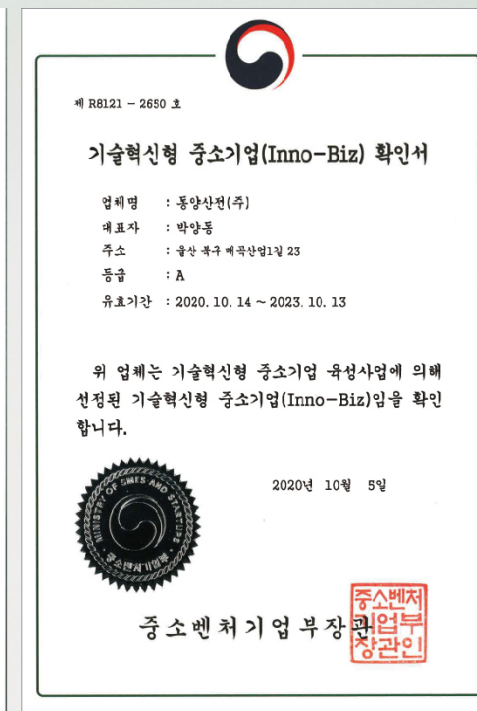
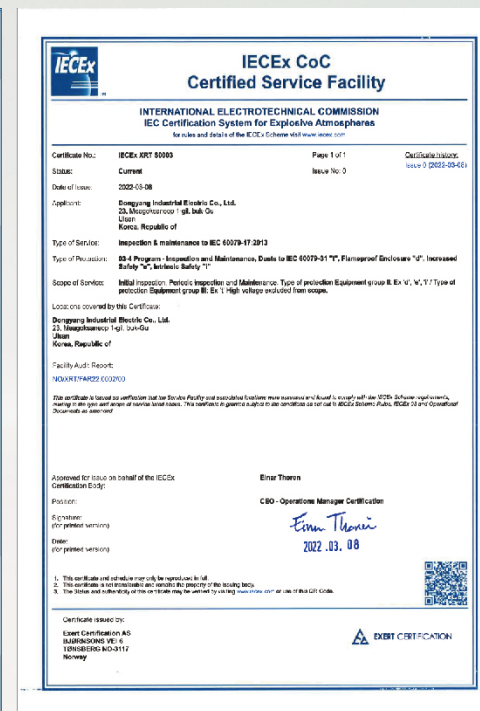
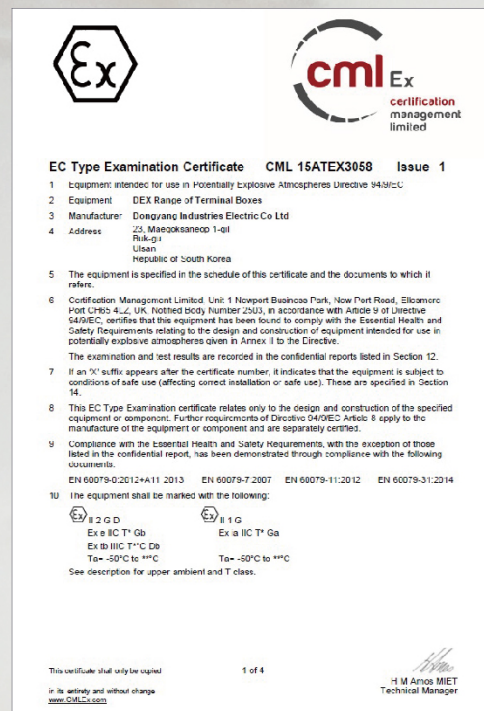
HISTORY

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New Chapter with all our Passion!

DEX Series(자체개발 J/B) 및 Service Facility / 이노비즈, 전기공사업 등록증, 정보통신공사업 등록증



특허 및 디자인 등록증 Certificates of Patent

New Chapter with all our Passion!

특허 5건, 디자인 8건, 출원 5건



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파트너사 Partners

Making the utmost efforts to prepare for the future

DONGYANG is growing together with our global partners to provide diverse and advanced services.



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최근실적 Performance Record

MARIN Platform / Vessels supply
STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

New Chapter with all our Passion!

No.	Year	Items	Quantity	Ship yard	Ship owner
1	2016	SWITCHBOARD(MSBD, GSP, LGSP, ESBD)	80	HHI/HMD/DHSC	Global United, KSS, Phoenix, Cardiff, Solvang, SK
		CONSOLE(ECC, BCC, CCC, BWC)	50	HHI/HMD/DHSC	
		기타(DIST, TEST, W/HGB, GCP)	77	HHI/HMD/DHSC	
2	2017	SWITCHBOARD(MSBD, GSP, LGSP, ESBD)	60	HHI/HMD/DHSC	Vitol, KSS, Phoenix, Cardiff, Solvang, SK
		CONSOLE(ECC, BCC, CCC, BWC)	32	HHI/HMD/DHSC	
		기타(DIST, TEST, W/HGB, GCP)	61	HHI/HMD/DHSC	
3	2018	SWITCHBOARD(MSBD, GSP, LGSP, ESBD)	71	HHI/HMD/DHSC	Vitol, AET, Teekay, KOTC, Solvang, CMA,
		CONSOLE(ECC, BCC, CCC, BWC)	8	HHI/HMD/DHSC	
		기타(DIST, TEST, W/HGB, GCP)	77	HHI/HMD/DHSC	
4	2019	SWITCHBOARD(MSBD, GSP, LGSP, ESBD)	74	HHI/HMD/DHSC	JX Ocean, Temile, Delos, BW, Knutsen, STL
		CONSOLE(ECC, BCC, CCC, BWC)	6	HHI/HMD/DHSC	
		기타(DIST, TEST, W/HGB, GCP)	91	HHI/HMD/DHSC	
5	2020	SWITCHBOARD(MSBD, GSP, LGSP, ESBD)	56	HHI/HMD/DHSC	CMA, BW, Byzantine, Knutsen, Avance, STL, KLC, BENELUX, EASTERN PACIFIC, E4C SHIPPING, PROMISSUM, ANDROMEDA
		CONSOLE(ECC, BCC, CCC, BWC)	12	HHI/HMD/DHSC	
		기타(DIST, TEST, W/HGB, GCP)	63	HHI/HMD/DHSC	
6	2021	SWITCHBOARD(MSBD, GSP, LGSP, ESBD)	61	HHI/HMD/DHSC	EVERGREEN, PAN OCEAN, CKLINE, SOCATRA, SM KOREA LINE, SAHARA, NISSHIN, BYZANTINE, NCC, MARINVEST
		CONSOLE(ECC, BCC, CCC, BWC)	7	HHI/HMD/DHSC	
		기타(DIST, TEST, W/HGB, GCP)	59	HHI/HMD/DHSC	

MARIN Platform / Vessels supply

Instrumentation

Onshore Plant

Offshore Plant

최근실적 Performance Record

Instrumentation - ULSAN

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

New Chapter with all our Passion!

Client	Project	Year	Work Description
SHEVRON	GORGON	2012 ~ 2014	Equipment (PG, Transmitter) Installation Instrument Cable Connection
HEBRON	DES, UPM	2014 ~ 2016	Equipment (Transmitter) Installation Instrument Cable Connection Tubing Installation & Leak Test
SAIPEM	JACKING FPU	2015 ~ 2016	Instrument Cable Connection
HESS E&P	Bergading CPP	2015 ~ 2016	Instrument Cable Connection Pressure Differential Indicating Transmitter
TOTAL	Moho Nord FRU, Moho Nord TLP	2016 ~ 2017	Equipment (Transmitter) Installation Instrument Cable Connection
Exxon - mobil	OS2	2015 ~ 2017	Tubing Installation & Leak Test Instrument Cable Connection
STASOIL	Aasta hansteen	2015 ~ 2017	Equipment (Transmitter, Themowell) Installation Tubing Installation Instrument Cable Connection
ADMA OPCO	NASR	2016 ~ 2018	Equipment (Transmitter) Installation Tubing Installation & Leak Test Instrument Cable Connection
DECA TECH	NGR RECOVER SYS.	2017 ~ 2018	Detail Engineering for control systems Mamufatureof packing control panal Commissioning assistance

MARIN Platform / Vessels supply

Instrumentation

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Offshore Plant

최근실적 Performance Record

Instrumentation - GEOJE

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

New Chapter with all our Passion!

Client	Project	Year	Work Description
INPEX	ICHTHYS CPF	2014 ~ 2017	Equipment (JB, Transmitter) & Tray installation Instrument Cable ConnectionTubing Installation & Leak TestInstrument Punch Clear Work
CAMERON	ICHTHYS CPF	2015 ~ 2016	Tubing Installation & Modification & Leak Test Tray installation
SHELL	Prelude FLNG	2015 ~ 2016	Equipment (JB, Transmitter) & Tray installation Instrument Cable ConnectionTubing Installation & Leak Test
TOTAL	EGINA FPSO	2017	Equipment (JB, Transmitter) & Tray installation Instrument Cable ConnectionInstrument Punch Clear Work
TOTAL	MARTIN LINGE	2017	Equipment (JB, Transmitter) & Tray installation Instrument Cable ConnectionInstrument Punch Clear Work
STATOIL	JOHAN	2018	Instrument Punch Clear Work
BP	MADDOG #2 FPU	2019	Equipment (JB), Extension box SUNSHADE, ABB OIL TR, DB & JB HOLE Work, BATTERY RACK PROTECTION COVER, PDT MAIN COVER, RECEPTACLE
ENI	CORAL FLNG	2020~Precent	Instrument Punch Clear Work

MARIN Platform / Vessels supply

Instrumentation

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최근실적 Performance Record

Onshore Plant

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

New Chapter with all our Passion!

Client	Project	Year	Items
HHI	JEDDAH SOUTH THERMAL POWER PLANT	2015	LOCAL CONTROL STATION
HHI	COAL POWER PLANT(CPP) PROJECT - CFB BOILERS	2015	DIST. PANEL
HHI	COAL POWER PLANT(CPP) PROJECT - CFB BOILERS	2015	LOCAL CONTROL PANEL
HHI	SHUQAIQ STEAM POWER PLANT	2015	LOCAL CONTROL STATION
HHI	DYNAMO TEST RIG	2015	MV, LV SWGR
HDO	HYUNDAI OIL BANK / #10 FBC	2016	MV, LV, MCC, DIST PANEL
HHI	DYNAMO TEST RIG	2016	MV, LV SWGR
HDO	HDO SDA	2017	HV&LV SWGR, MCC&DIST. PANEL
KOREA ZINC	KOREA ZINC ESS	2017	HV&LV SWGR, ACB&TR PANEL
HES	HHI 154kV ESS	2017	HV, TR, LV SWGR
HDO	MV SWGR REVAMPING	2017	6.6kV SWGR
HANWHA CHEMICAL	HANWHA CHEMICAL LINE STREAMLINE	2017	480V HiMCC& SMC PANEL
HDO	MOV MDB PANEL	2017	460V DIST. BOARD
KCC	KCC YEOJU & GIMCHEON PLANT ESS	2018	HV, LV SWGR
KCC	KCC KAC PLANT ESS	2018	HV, LV SWGR

MARIN Platform / Vessels supply

Instrumentation

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최근실적 Performance Record

Onshore Plant

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

New Chapter with all our Passion!

Client	Project	Year	Items
HDO	2020 T/A REVAMPING PROJECT	2019	HV&LV SWGR, MCC
HANWHA CHEMICAL	DEHCH PROJECT	2019	HV&LV SWGR, MCC
LG CHEMICAL	3NE PROJECT	2019	HV&LV SWGR, MCC
LOTTE CHEMICAL	2019 T/A PROJECT	2019	HV&LV SWGR, MCC
HOCI	U3 PROEJCT	2019	HV&LV SWGR, MCC
LOTTE BP	KAP MCC VCB 교체공사	2020	HV SWGR
HDC	HPC POWER PANEL	2020	DIST. PANEL
HDC	HPC MOLD TR	2020	MOLD TR PANEL
LEC	HPC 자동화창고	2020	HV&LV SWGR, MCC, DIST
SK ENERGY	종합동력 DIST. PANEL	2020	DIST. PANEL
HDC	HPC EDG PROJECT	2020	LV SWGR
LEC	HPC PKG #2 PROJECT	2020	HV SWGR, FIXED MCC, DIST
HDC	HPC PKG #1 PROJECT	2020	HV&LV SWGR, MCC, DIST
SK ENERGY	종합동력 OLD 480V MCC 교체PROJECT	2020	MCC
HDO	2020 노후전기설비교체PROJECT	2020	HV&LV SWGR, MCC, DIST

MARIN Platform / Vessels supply

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최근실적

Performance Record

Offshore Plant

STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

New Chapter with all our Passion!

Client	Project	Year
ADGAS	IGD DAS	2011
ADMA	Umm Shaif & Gas Injection Facilities	2009
BCP	CALIGALI HESS	2013
BP	Greater Plutonio FPSO	2006
	Skarv FPSO	2009
	BP Q204 FPSO	2013
	BP CLAIR RIDGE Platform	2012
	MAD DOG #2 FPU	2019
Chevron	Jack & St.Malo (JSM) Platform	2012
	Wheatstone Platform	2013
	GORGON	2011
	DSO Platform	2013
Daewoo International	SHWE	2011, 2012
EHRA	Saipem	2009
Eni Norge	Goliat FPSO	2012
ExxonMobil	Arkutun-Dagi Platform	2012
	OPF Oil Injection Facility	2005
	Kizomba A & B FPSO	2003, 2004
	Sakhalin Orlan Platform	2005
	East Area Platform	2007

Client	Project	Year
ExxonMobil	POINT THOMSON Plant Module	2013
	HEBRON Platform	2013
	CHAYVO OPF	2011
Ras Gas	BARZAN	2012
Gazflot	Gazflot Drilling-rig	2008
GE Energy(Converteam)	CONVERT MOTOR	2009
	DSME H7038, HHI P135	2012, 2013
H2148 / H2228 / H2229	Transocean Drill ship series	2008, 2009
HM4001	NOBLE DRILL SHIP	2009, 2013
H6001	OPL	2009
INPEX	NPEX ICHTHYS CPF	2013
	INPEX ICHTHYS FPSO	2013
KNOC	Rong Doi Platform	2006
LLOG	DELTA HOUSE	2013
M6001	OPL DRILL SHIP	2009
Maersk	MAERSK D/SHIP#1	2013
Nexus	Nexus FPSO	2008
Ocean Rig	OCEAN RIG D/SHIP#5~#7	2012, 2013
Pacific Drilling	PDC D/SHIP#5 ~ #7	2012, 2013

MARIN Platform / Vessels supply

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STAYING ONE STEP AHEAD GLOBAL LEADER, DONGYANG

New Chapter with all our Passion!

Client	Project	Year
Seadrill	Semi Rig #1 & 2	2008
	SEADRILL D/SHIP#4	2011 ~ 2012
	SEADRILL D/SHIP#5	2011 ~ 2012
	SEADRILL D/SHIP#6	2012 ~ 2013
	SEADRILL D/SHIP#9	2013
SHELL	Prelude FLNG	2013
SIEMENS	SKARV FPSO	2009
Songa Offshore	SONGA#1 Project	2013
	SONGA#2 Project	2013
STATOIL	Golist FPSO	2013
	SONGA#3 Project	2014-15
	SONGA#4 Project	2014-15
Teekay	Teekay FPSO(Knarr)	2013
TOTAL	Moho FPU, TLP	2007
	AKPO FPSO	2007
	USAN FPSO	2009
	OFON P/F	2009
	OFON	2013
	MARTIN LINGE	2016
	EGINA FPSO	2016

Client	Project	Year
Total / PTTEP	Bongkot	2011
WOODSIDE	NR-2	2009 ~ 2011
STENA	STENA RIG	2014
Dolphin Drilling	Fred Olsen H2620	2013
Eni Norge	Goliat FPSO	2012
	CORAL FLNG	2020 ~ Present
Seadrill	HSHI S672	2013
STATOIL	Golist FPSO	2013
	CAT-J JACK UP RIG #1	2014
	CAT-J JACK UP RIG #2	2015
Reliance	RUBY FPSO	2021



DONGYANG
INDUSTRIES ELECTRIC Co., Ltd.

MARIN Platform / Vessels supply

Instrumentation

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