

SMART Grid



✓ Equipment Sales

- RMU
- Transformer
- DC Combiner
- Cable

✓ PKG Sales

- 22kV, 33kV RMU + STR + α
- Power Device PKG for ESS

✓ Turnkey

- Substation (GIS + Transformer + SWGR + α)

SMART Grid, 電力機器単品からPackage受注及び特別高圧市場まで営業拡大中

'21. Power Device



- ✓ RMU, STR
- ✓ DC Combiner



'22. Small PKG



- ✓ RMU, STR PKG
Hitoyoshi, Tanakura
- ✓ RMU+TR+Misc Pannel



▲ RMU + TR



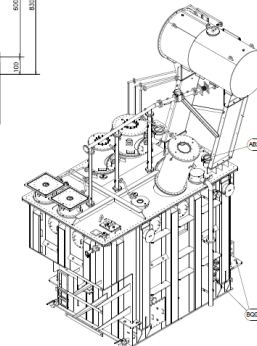
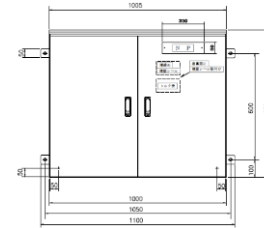
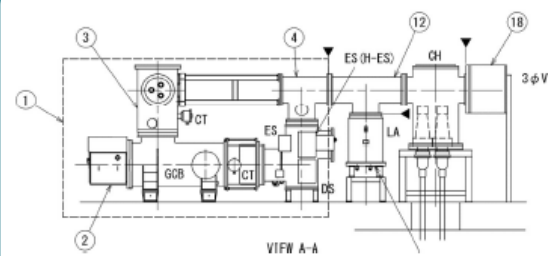
RMU + TR + Misc Pannel(STATCOM)



'23. Large PKG



- ✓ HVDC, GIS, CTR
SWGR, RMU, STR
Cable, AC PNLs etc.
for Ukujima



'24. UHV Turnkey

- ✓ UHV GIS, 66kV TR
- ✓ Power Device PKG for ESS



▲ UHV Substation Image



▲ GIS + UHV TR Image

Susol Ring Main Unit (RMU)



Rating

Short time withstand

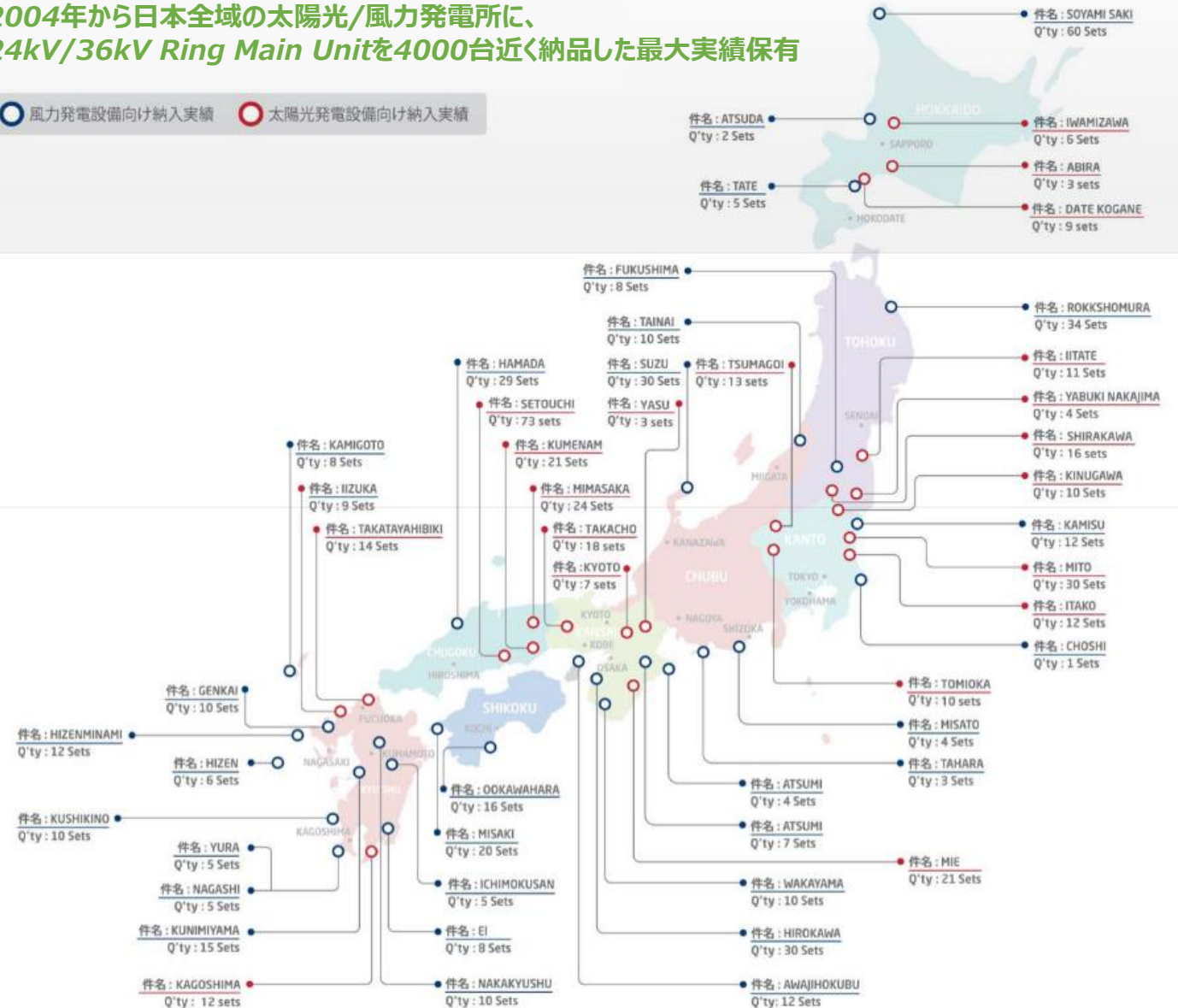
Rating

Short time withstand

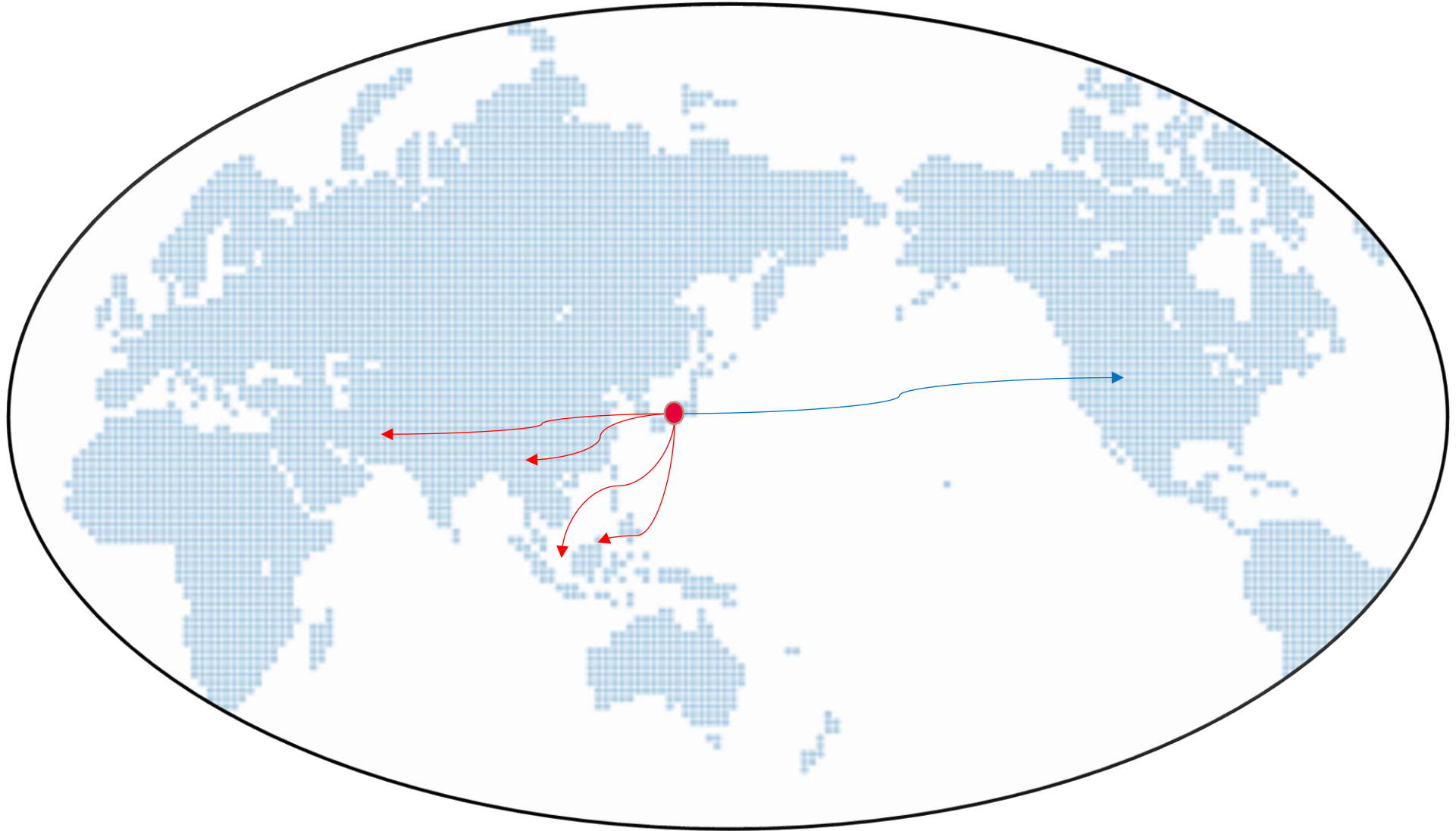
The diagram illustrates a power distribution system. At the top, a transmission line connects a power plant (represented by a factory icon) to a city (represented by a building icon). Three substations (represented by electrical switchgear icons) are located along this line. Red lines connect the substations to the transmission line. Below the substations, blue lines connect them to four different loads: Wind Power (represented by a wind turbine icon), Small Sized Power Plant (represented by a power plant icon), Airport (represented by an airplane icon), and Solar Power (represented by a solar panel icon).

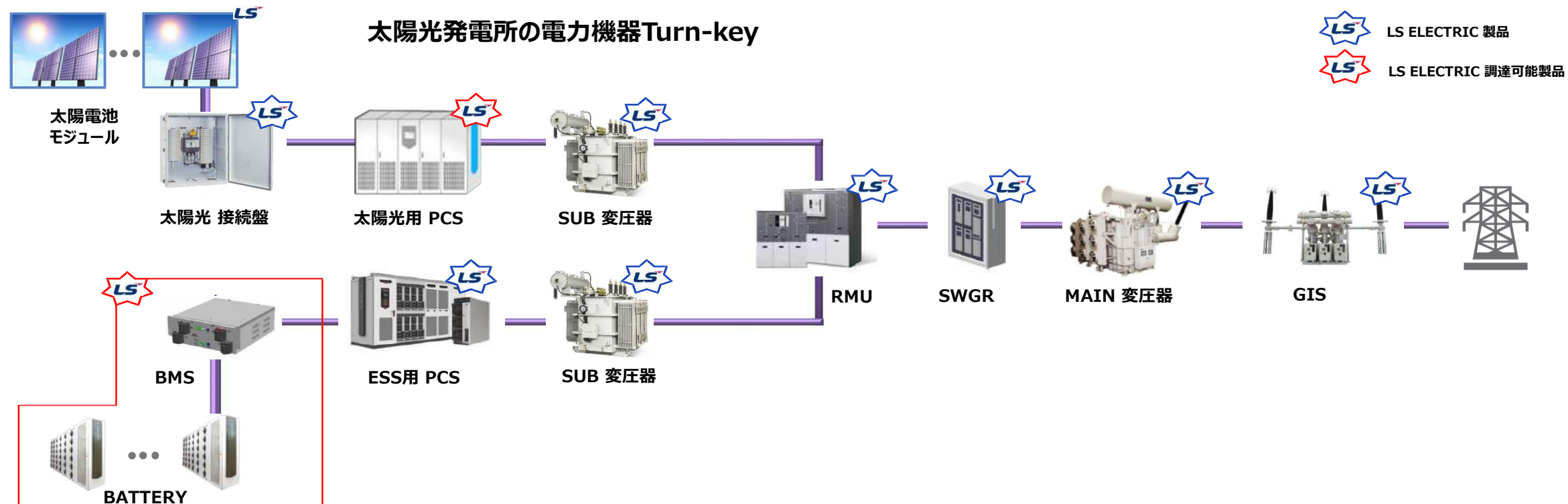
- **Optimized design for Renewable Energy Project**
- **Package supply**
 - Package solution of small sized power plant and container
 - TR (Oil/Mold) integrated type
- **Engineering Support**
 - Full engineering support for installation, test, trial run
 - Technical data support for operation and maintenance

 風力発電設備向け納入実績
 太陽光発電設備向け納入実績



日本発海外市場へ、電力機器Turnkey推進、例) ベトナムイオンモール、K社とベトナム事業協議中





接続盤

■ 1000V&1500V仕様の接続盤

1,000V& 1,500V DC太陽光発電システムの保護及び性能向上のための太陽光接続箱。正確な動作とソリューション最適化のために国際 公認規格基準のLSの電力機器を適用しました

変圧器

■ ニーズを満たすカスタマイズ製作

LS ELECTRICはお客様のニーズを最優先的に反映するカスタマイズ製作を提供しております。発電システムのトータルソリューションを提供して きた大手変圧器メーカー。油入・モールド変圧器 において、LS ELECTRICに及ぶものはないと自負しております。

RMU

■ 22kV, 33kV適用可

RMUは風力・太陽光発電のような再生可能エネルギー発電所、電力会社、小規模の配電系統に適しております。
日本では2004年から約2,000台を納品しております。

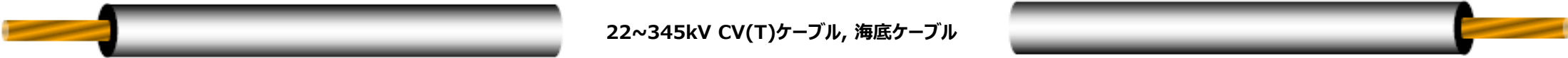
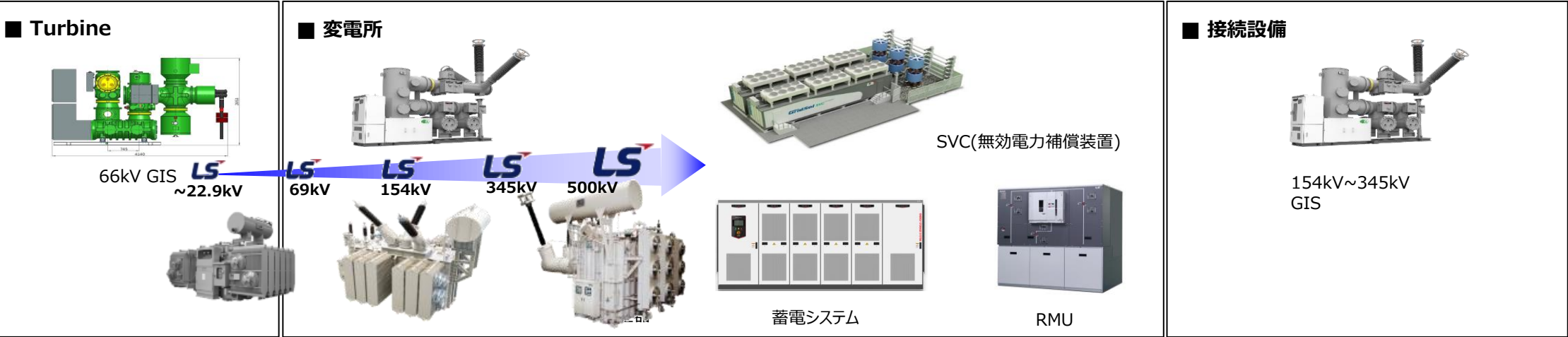
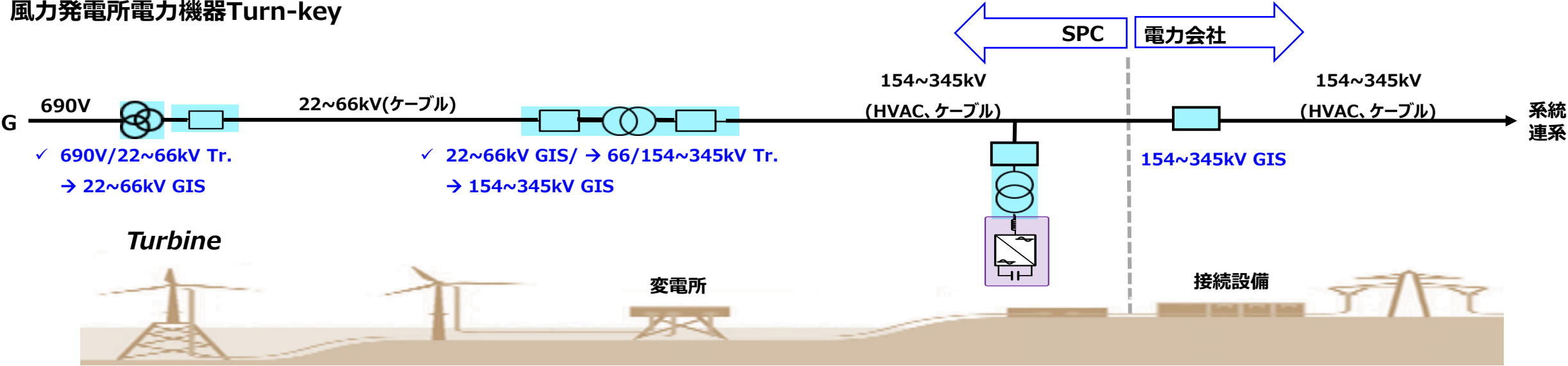
蓄電池設備

■ ESS Total Solution提供

ESS用PCSだけではなく、PMS(制御機器) EMS(運営システム),受変電設備,バッテリーなど ESSと関連した核心装置を全て取り扱いしております。

SMART Grid

風力発電所電力機器Turn-key



Global Factories Product Line-up

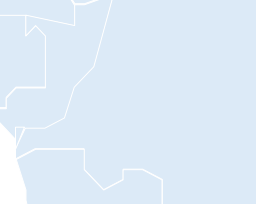
Wuxi, China

Counter Part : 장봉윤(Bongyun Jang) byjang@ls-electric.com

ACB	Susol  • D/E Frame: Up to 4000AF • Icu=Ics=75kA/800&900Vac • Icu=Ics=65kA/1100Vac • Icu=Ics=65kA/1140Vac	Metasol  • D/E/F/G Frame: Up to 6300AF • Icu=Ics=120kA/500Vac • Icu=Ics=Icw=120kA/690Vac	DC Switch-Disconnector  • D/E Frame: Up to 4000AF • Icw = 100kA/0.4 & 1s at 1500 Vdc • DC-23A & 22A	
MCCB	Meta MEC  • ABS Type: 100~800AF • Ui 690V, Uimp 6kV • Icu=415V/85kA • Ics=50%Icu	Susol  • TD/TS Type: 100~800AF • Ui 690V, Uimp 8kV • Icu=415V/150kA • Ics=100%Icu	Susol H/V  • UTV Type: 250~400AF • Ui 1000V, Uimp 8kV • Icu=690V/85kA • Ics=100%Icu, IEC/UL	Susol DC  • TSD/UTD Type: 250~400AF • Ui 1500V, Uimp 8kV • Icu=1500Vdc/50kA • Ics=100%Icu, IEC/UL(UTD)
MC/MT	Tesol  • MCT, MTT: 32~800AF • Ue ~1000V, Ui ~1000V, Uimp ~8kV • AC3 Level: 1800(~40AF), 1200(65AF~) • Elec. Life: 1.5M(~12A), 0.5M(400A~)	Metasol  • MC: 25~100AF, MT: 32AF • Ue ~1000V, Ui ~1000V, Uimp ~8kV • AC3 Level: 1800(~40AF), 1200(65AF~) • Elec. Life: 2.5M(~25A), 2M(32A~)	Meta MEC  • GMC: 125~1260AF, GTH: 100~800AF • Ue 440V, Ui ~1000V, Uimp ~12kV • AC3 Level: 1200(~800AF), 300(1260AF) • Elec. Life: 1M(~300A), 30K(1260A)	

Dalian, China

Counter Part : 강대성(Kang Da Cheng) kangdc@ls-electric.com.cn

MV SWGR	LV SWGR	ACB	SBB
LSDH  • Up to 4000A for 12kV • Up to 2500A for 24kV • Up to 3150A for 40kV	LGDL  • Up to 400V • Up to 80kA • Up to 5000A	LGDL-IX  • Up to 460V • Up to 100kA • Up to 5000A	LGDD  • Up to 400V • Up to 30kA • Up to 1200A
VBC	Tri-MEC VCS	Mold TR	Busbar Duct
Supec VCB  • Up to 4000A for 12kV • Up to 3150A for 24kV • Up to 3150A for 40kV	Tri-MEC VCS  • 12kV 6.3kA 630A	Mold TR  • Up to 35kV • Up to 3150kVA	Busbar Duct  • Up to 690V, Up to 100kA • Up to 6300A • Up to 40kV • Up to 4000A
RMU	SF6 Insulation	Solid Insulation	Dry Air Insulation
 • LBS Type: 12kV 630A 20kA • CB Type: 12kV 630A 20kA • Fuse LBS Type: 12kV 125A 31.5kA	 • LBS Type: 12kV 630A 20kA • CB Type: 12kV 630A 20kA	 • LBS Type: 12kV 630A 20kA • CB Type: 12kV 630A 20kA	 • LBS Type: 12kV 630A 20kA • CB Type: 12kV 630A 20kA

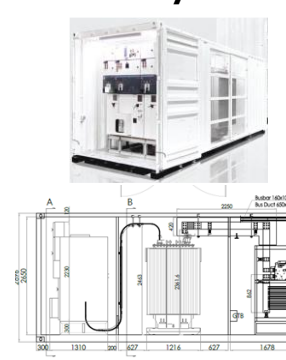
Lishui, China

Counter Part : 백경호(Kyungho Paek) khpaek@ls-electric.com

MCB	RCBO	RCCB	DC MCB
 • LA Series: 1~125A • Icn: 4.5, 6, 10, 15kA • Standard : IEC60898-1 IEC60947-2 IEC60947-3	 • LB Series: 6~63A • Residual Operating Current - 10, 30, 50, 100, 300mA • Icn : 6, 10kA • Operation of Residual Current - AC, A, AC(S), A(S), B Type - AC, A, B Type	 • LC Series: 16~100A • Residual Operating Current - 30, 100, 300mA • Operation of Residual Current - AC, A, AC(S), A(S), B Type - AC, A, B Type	 • LA-DC Series: 1~63A • Icu: 10kA • Ue : 1P 250Vdc, 2P 500Vdc, 3P 750Vdc, 4P 1000Vdc

PT. SYMPHOS, Indonesia

Counter Part : 김중표(Jungpyo Kim) jpkima@ls-electric.com

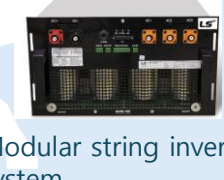
TR	Oil Immersed Distribution Transformer	Pad Mounted Transformer	Pole Mounted Transformer	C-Substation For PV/ESS
 • Capacity: 25 ~ 10,000kVA • Voltage: Up to 34.5kV • Tap changer: 5 position or multi-tap position • Transformer oil: Mineral, Natural Ester, Synthetic Ester	 • Capacity: 75 ~ 5040kVA • Voltage: Up to 34.5kV • Tap changer: 5 position or multi-tap position • Transformer oil: Mineral, Natural Ester, Synthetic Ester	 • Capacity: 25 ~ 500kVA • Voltage: Up to 34.5kV • Tap changer: 3, 5, 7 or 9 tap position • Transformer oil: Mineral, Natural Ester, Synthetic Ester	 • Capacity: 25 ~ 500kVA • Voltage: Up to 34.5kV • Tap changer: 3, 5, 7 or 9 tap position • Transformer oil: Mineral, Natural Ester, Synthetic Ester	 • MV SWGR : 630A, 24kV, 21kA • Oil TR: 2400kVA, 24kV/600V • Protection

America

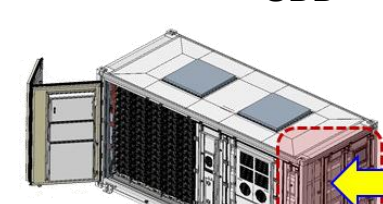
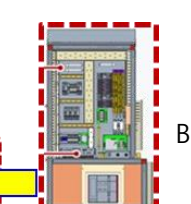
Counter Part(MCM) : 이성원(James Lee) james.lee@lselectricamerica.com

Counter Part(Bastrop) : 김광훈(Kwanghun Kim) khkima@ls-electric.com

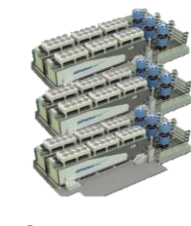
Counter Part(LSES) : 강형석(Hyungsok Kang) hskang@ls-electric.com

MCM Engineering II	MV SWGR  • ANSI C37.20.2/ 3 & 4 MV SWGR (NEMA 1& 3R) • MESA & MCSG	LIS (Metal Enclosed)  • ANSI C37.57 (NEMA 1&3R) • Up to 15kV 1200A • Manual / Motorized Operating	E-House  • Typical E-House & Sheltered aisle	LV SWGR  • UL891 Switch board • Up to 6000A	
Bastrop Campus	Susol UL MCCB  • UL489 Circuit Breakers • Up to 1200A for 600V • Option Change	Susol UL ACB  • UL1066 Power Breakers • Up to 3200A for 635V • Option Change	LS Energy Solutions  • Scalable all-in-one AC energy storage solution • Integrated battery and PCS in container package • UL 9540, NFPA 855 compliance	AiON-ESS  • Modular string inverter system • Output power: 140kW @ 600Vac • IEEE 1547, UL1741- SA including CA Rule 21	AiON-SIS  • Counter Part : 박도휘(Dohwi Park) dwparka@ls-electric.com

Vietnam

MV SWGR	C-AIS	RMU	
MCSG  • Up to 3150A for 36/24kV, 40kA • Up to 4000A for 17.5kV, 50kA • Up to 5000A for 12/7.2kV 50kA	 • Up to 630A for 24kA, 25kA	 • Up to 630A for 36kA, 20kA • Up to 630A for 24kA, 21kA	
Susol LV SWGR & MCC  • Up to 6300A for 690V, 100kA (Main / Feeder) • Up to 5000A for 690V, 100kA (MCC)	Solution 2000 MCC  • Up to 4000A for 600V, 80kA (MCC)	Susol LV MDB  • Up to 5000A for 690V, 100kA (ACB PNL) • Up to 5000A for 440V, 100kA (MCCB PNL)	LV AC Drive Panel  • Up to 630A for 24kA, 21kA
ACB	SBB	BCP	
Metasol  • Fixed type • D Frame: Up to 1600A • E Frame: Up to 2500A • Icu=Ics=120kA/500Vac • Icu=Ics=Icw=120kA/690Vac	 • SBB 1.5 (ESS: 2.6MW / 5.3MWh)		

Busan, Korea

General PTR	Scott Transformer	Mobile Transformer	
 • Typical Capacity: Up to 800MVA • Typical Voltage: Up to 550 kV • Oil Type: Mineral, Natural Ester • Special Type - HVDC Converter Transformer - Scott Transformer for railway - Mobile Transformer (Hybrid) - SVC Transformer			
HVDC	HVDC Converter TR	HVDC Valve	
 • CTR: Up to DC 500 kV Class • Valve: Converting AC voltage into DC voltage and re-converting into AC voltage			
FACTS	SVC	C-STATCOM	B-STATCOM
 • FACTS: Flexible AC Transmission System • SVC: Static Var Compensator • STATCOM: Static Synchronous Compensator			

KOC, Korea

Power TR	Oil Immersed Distribution TR	PAD / Pole TR	Cast Resin TR	Dry TR		
 • Capacity: Up to 1200MVA • Voltage: Up to 220kV	 • Capacity: Up to 120MVA • Voltage: Up to 69kV	 • Capacity: Up to 10MVA • Voltage: Up to 36kV	 • Capacity: Up to 20MVA • Voltage: Up to 36kV	 • Capacity: Up to 5MVA • Voltage: Up to 11kV		
TR	Package Power System	MSBD	UPS	Battery Charger	Heli-Starter	ABT
 • Integrated Power Supply Solution: Containerized H/V System & Transformer & RMU & Control panel	 • Up to 440V	 • Up to 300kVA/240kW	 • Input: Up to 440V	 • Current: Up to 2000A	 • Auto Bus Transfer	 • Voltage: AC 400V • Current: Up to 600A

Cheongju 1, Korea

MCCB	Susol  • Up to 1000VAC • Up to 1500VDC • Up to 200kA • MCCB/DSU/Electronics	Metasol  • Up to 690VAC • Up to 1200 • Up to 125kA	BK Series  • Up to 460AC • Up to 100A • Up to 10kA	ACB	Susol  • C/D/E/G-Frame • Up to 1150VAC • Up to 6300A(AC)	Metasol  • D/E/F/G-Frame • Up to 690VAC • Up to 6300A(AC)	DC ACB/DSU  • E-Frame(ACB) • D/E-Frame(DSU) • Up to 1800VDC • Up to 7000A(DC)
MS	Susol  • Up to 1000VAC • Up to 150A • Up to 2,500,000 operations	Metasol  • Up to 1000V • Up to 2650A • Up to 2,500,000 operations	Meta MEC  • Up to 690V • Up to 16A • Up to 1,000,000 operations	ELB	Metasol  • Up to 460VAC • Up to 1200A • Up to 125kA • Up to 2A2S time delay	32GR Series  • Up to 460AC • Up to 100A • Up to 10kA • Residence, SI TYPE	
VCB	Susol  • Up to 36kV • Up to 50kA • Up to 5000A	Metasol  • Up to 17.5kV • Up to 31.5kA • Up to 1250A	Pro-MEC  • Up to 24kV • Up to 31.5kA • Up to 4000A	VCS  • Up to 12kV • Up to 100A • Up to 4kA (with Fuse: 50kA) • Up to 400A			
GIPAM	XGIPAM  • 8.4" inch touch screen • Various Option Module & Protocol	GIPAM3000/1000  • Various Protection & Measurement elements • Wide range of operation environment(-40°C~70°C)	GIPAM115,10 /DPR1000  • Simplified structure • Self-diagnosis function	GIMAC  • Various Measurement & Monitoring • APFC Option	GIMAC-PQ /GIMAC-DC  • Specialized specification	GIMAC-B  • Consists of Main, Branch module	
EMPR	GMP  • LED indicates cause of failure • Combined MC: SCREW/TUNEL • Current protection elements by model	DMPi  • Separated display part using cables • Combined MC: SCREW/TUNEL • Modbus / 4~20mA DC output	IMP  • Separated display part using cables • Combined MC: SCREW/TUNEL • Modbus / 4~20mA DC output	IMC-III  • Motor protection and control • Modbus / 4~20mA DC output	MMP  • Motor protection and control • Various measurement(V,I,P) • Modbus / 4~20mA DC output • Motor diagnosis function		

Cheongju 2, Korea

MV SWGR (IEC)	MCSG(SLV)  • Up to 3150A for 24kV, 40kA	MCSG(SLVB)  • Up to 3150A for 36kV, 40kA	MCSGD(DLVX)  • Up to 5000A for 7.2kV, 50kA	MCSGD(DLV)  • Up to 2000A for 7.2kV, 25kA • Up to 2500A for 7.2kV, 50kA	CMCSG  • Up to 630A for 24kV, 12.5kA
LV SWGR (IEC)	Susol LV SWGR & MCC  • Up to 34.5kV, 30MVA • Up to 5000A for 690V, 100kA (Main / Feeder) • Up to 1500A for 500V, 100kA (MCC)	Solution 2000 MCC  • Up to 1500A for 500V, 80kA (MCC)	Susol LV MDB  • Up to 5000A for 690V, 100kA (ACB PNL) • Up to 5000A for 440V, 100kA (MCCB PNL)	LV AC Drive Panel  • Up to 4000A for 690V, 65kA (ACB PNL)	
MV SWGR (UL)	MCSG(2High+LVC)  • Up to 4000A for 4.76/15kV, 50kA (IEEE C37.20.2, ANSI C37.55)	MCSG(2High)  • Up to 2750A for 27kV, 40kA (IEEE C37.20.2, ANSI C37.55)	MCSG(1High)  • Up to 2000A for 38kV, 40kA (IEEE C37.20.2, ANSI C37.55)		
LV SWGR (UL)	LV Switchboard  • Up to 6000A for 480V, 100kA (UL891 Front & Rear-access)	LV Switchgear  • Up to 6000A for 635V, 100kA (IEEE C37.20.1, UL1558, ANSI C37.51)	LV Panel Board  • Up to 1200A for 480V, 100kA (UL67)	Mold TR  • Up to 36kV, 30MVA	

Global Factories Product Line-up



Wuxi, China

Counter Part :
정봉윤(Bongyun Jang)
bjjang@ls-electric.com

ACB	Susol  • D/E Frame: Up to 4000AF • Icu=Ics=75kA/800/900Vac • Icu=Ics=65kA/1000Vac • Icu=Ics=65kA/1140Vac	Metasol  • D/E/F/G Frame: Up to 6300AF • Icu=Ics=120kA/500Vac • Icu=Ics=Icw=120kA/690Vac	DC Switch-Disconnecter  • D/E Frame: Up to 4000AF • Icw = 100kA/0.4 & 1s at 1500 Vdc • DC-23A & 22A	
	Meta MEC  • ABS Type: 100~800AF • Ui 690V, Uimp 8kV • Icu=415V/85kA • Ics=50%Icu	Susol  • TD/TS Type: 100~800AF • Ui 800V, Uimp 8kV • Icu=415V/150kA • Ics=100%Icu	Susol H/V  • UTV Type: 250~400AF • Ui 1000V, Uimp 8kV • Icu=690V/85kA • Ics=100%Icu, IEC/UL	Susol DC  • TSD/UTD Type: 250~400AF • Ui 1500V, Uimp 8kV • Icu=1500Vdc/50kA • Ics=100%Icu, IEC/UL(UTD)
MC/MT	Tesol  • MCT, MTT: 32~800AF • Ue ~1000V, Ui ~1000V, Uimp ~8kV • AC3 Level: 1800(~40AF), 1200(65AF~) • Elec. Life: 1.5M(~12A), 0.5M(400A~)	Metasol  • MC: 25~100AF, MT: 32AF • Ue ~1000V, Ui ~1000V, Uimp ~8kV • AC3 Level: 1800(~40AF), 1200(65AF~) • Elec. Life: 2.5M(~25A), 2M(32A~)	Meta MEC  • GMC: 125~1260AF, GTH: 100~800AF • Ue 440V, Ui ~1000V, Uimp ~12kV • AC3 Level: 1200(~800AF), 300(1260AF) • Elec. Life: 1M(~300A), 30K(1260A)	



Lishui, China

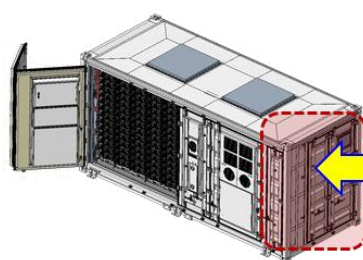
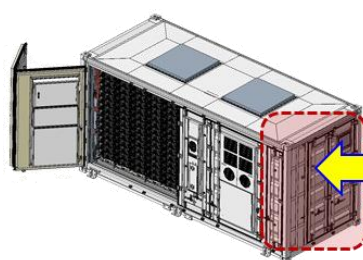
Counter Part :
백경호(Kyunggho Paek)
khpae@ls-electric.com

MCB	MCB  • LA Series: 1~125A • Icn: 4.5, 6, 10, 15kA • Standard : IEC60898-1 • IEC60947-2 • IEC60947-3	RCBO  • LB Series: 6~63A • Residual Operating Current : 10, 30, 50, 100, 300mA • Icn : 6, 10kA • Operation of Residual Current : AC, A, B Type	RCCB  • LC Series: 16~100A • Residual Operating Current : 30, 100, 300mA • Operation of Residual Current : AC, A, AC(S), A(S), B Type	DC MCB  • LA-DC Series: 1~63A • Icu: 10kA • Ue: 1P 250Vdc, 2P 500Vdc, 3P 750Vdc, 4P 1000Vdc



Vietnam

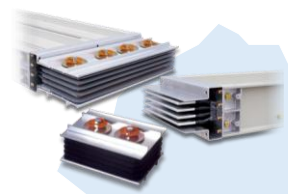
Counter Part :
박도휘(Dohwi Park)
dwparka@ls-electric.com

MV SWGR	MCSG  • Up to 3150A for 36/24kV, 40kA • Up to 4000A for 17.5kV, 50kA • Up to 5000A for 12/7.2kV 50kA	C-AIS  • Up to 630A for 24kA, 25kA	RMU  • Up to 630A for 36kA, 20kA • Up to 630A for 24kA, 21kA	
	Susol LV SWGR & MCC  • Up to 6300A for 690V, 100kA (Main / Feeder) • Up to 5000A for 690V, 100kA (MCC)	Solution 2000 MCC  • Up to 4000A for 600V, 80kA (MCC)	Susol LV MDB  • Up to 5000A for 690V, 100kA (ACB PNL) • Up to 5000A for 440V, 100kA (MCCB PNL)	LV AC Drive Panel 
LV SWGR	Metasol  • Fixed type • D Frame: Up to 1600A • E Frame: Up to 2500A • Icu=Ics=120kA/500Vac • Icu=Ics=Icw=120kA/690Vac	SBB  • SBB 1.5 (ESS : 2.6MWh / 5.3MWh)		
	ACB	SBB   BCP		



Dalian, China

Counter Part :
강대성(Kang Da Cheng)
kangdc@ls-electric.com.cn

MV SWGR LV SWGR	LSDH  • Up to 4000A for 12kV • Up to 2500A for 24kV • Up to 3150A for 40kV	LGDL  • Up to 400V • Up to 80kA • Up to 6300A	LGDL-IX  • Up to 460V • Up to 80kA • Up to 4000A	LGDD  • Up to 400V • Up to 30kA • Up to 1200A
	Supec VCB  • Up to 4000A for 12kV • Up to 3150A for 24kV • Up to 3150A for 40.5kV	Tri-MEC VCS  • 12kV 6.3kA 630A	Mold TR  • Up to 35kV • Up to 3150kVA	Busbar Duct  • Up to 400V, Up to 80kA • Up to 6300A • Up to 40.5kV, Up to 40kA • Up to 4000A
	VCS VCS TR Busbar Duct 			
RMU	SF6 Insulation  • LBS Type: 12kV 630A 20kA • CB Type: 12kV 630A 20kA • Fuse LBS Type: 12kV 125A 31.5kA	Solid Insulation  • LBS Type: 12kV 630A 20kA • CB Type: 12kV 630A 20kA	Dry Air Insulation  • LBS Type: 12kV 630A 20kA • CB Type: 12kV 630A 20kA	



America

Counter Part(MCM) :
이성원(James Lee)
james.lee@lselectricamerica.com

Counter Part(Bastrop) :
김광훈(Kwanghun Kim)
khkima@ls-electric.com

Counter Part(LSES) :
강형석(Hyungsok Kang)
hskang@ls-electric.com

MCM Engineering II	MV SWGR  • ANSI C37.20.2/ 3 & 4 MV SWGR (NEMA 1& 3R) • MESG & MCSG	LIS (Metal Enclosed)  • ANSI C37.57 (NEMA 1&3R) • Up to 15kV 1200A • Manual / Motorized Operating	E-House  • Typical E-House & Sheltered aisle	LV SWGR  • UL891 Switch board • Up to 6000A
	Susol UL MCCB  • UL489 Circuit Breakers • Up to 1200A for 600V • Option Change	Susol UL ACB  • UL1066 Power Breakers • Up to 3200A for 635V • Option Change		
	Bastrop Campus 			
LS Energy Solutions	AiON-ESS  • Scalable all-in-one AC energy storage solution • Integrated battery and PCS in container package • UL 9540, NFPA 855 compliance	AiON-SIS  • Modular string inverter system • Output power: 140kW @ 600Vac • IEEE 1547, UL1741- SA including CA Rule 21		



Lishui, China

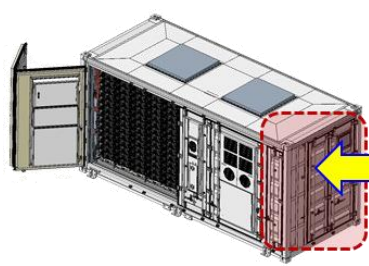
Counter Part :
백경호(Kyunggho Paek)
khpae@ls-electric.com

MCB	MCB  • LA Series: 1~125A • Icn: 4.5, 6, 10, 15kA • Standard : IEC60898-1 • IEC60947-2 • IEC60947-3	RCBO  • LB Series: 6~63A • Residual Operating Current : 10, 30, 50, 100, 300mA • Icn : 6, 10kA • Operation of Residual Current : AC, A, B Type	RCCB  • LC Series: 16~100A • Residual Operating Current : 30, 100, 300mA • Operation of Residual Current : AC, A, AC(S), A(S), B Type	DC MCB  • LA-DC Series: 1~63A • Icu: 10kA • Ue: 1P 250Vdc, 2P 500Vdc, 3P 750Vdc, 4P 1000Vdc



Vietnam

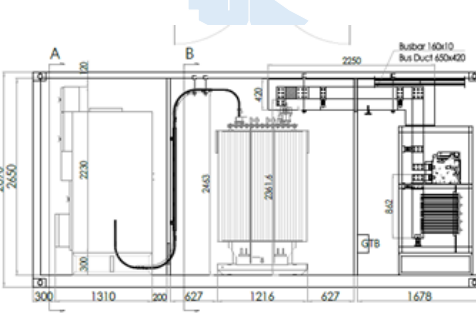
Counter Part :
박도휘(Dohwi Park)
dwparka@ls-electric.com

MV SWGR	MCSG  • Up to 3150A for 36/24kV, 40kA • Up to 4000A for 17.5kV, 50kA • Up to 5000A for 12/7.2kV 50kA	C-AIS  • Up to 630A for 24kA, 25kA	RMU  • Up to 630A for 36kA, 20kA • Up to 630A for 24kA, 21kA	
	Susol LV SWGR & MCC  • Up to 6300A for 690V, 100kA (Main / Feeder) • Up to 5000A for 690V, 100kA (MCC)	Solution 2000 MCC  • Up to 4000A for 600V, 80kA (MCC)	Susol LV MDB  • Up to 5000A for 690V, 100kA (ACB PNL) • Up to 5000A for 440V, 100kA (MCCB PNL)	LV AC Drive Panel 
LV SWGR	Metasol  • Fixed type • D Frame: Up to 1600A • E Frame: Up to 2500A • Icu=Ics=120kA/500Vac • Icu=Ics=Icw=120kA/690Vac	SBB  • SBB 1.5 (ESS : 2.6MWh / 5.3MWh)		
	ACB  BCP 			



PT. SYMPHOS Indonesia

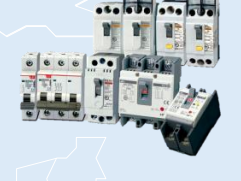
Counter Part :
김종표(Jungpyo Kim)
jpkima@ls-electric.com

TR	Oil Immersed Distribution Transformer  • Capacity : 25 ~ 10,000kVA • Voltage : Up to 34.5kV • Tap changer : 5 position or multi-tap position • Transformer oil : Mineral, Natural Ester, Synthetic Ester.	Pad Mounted Transformer  • Capacity : 75 ~ 5040kVA • Voltage : Up to 34.5kV • Tap changer : 5 position or multi-tap position • Transformer oil : Mineral, Natural Ester, Synthetic Ester.	Pole Mounted Transformer  • Capacity : 25 ~ 500kVA • Voltage : Up to 34.5kV • Tap changer : 3, 5, 7 or 9 tap position • Transformer oil : Mineral, Natural Ester, Synthetic Ester.
C-Substation For PV/ESS		 • MV SWGR : 630A, 24kV, 21kA • Oil TR : 2400kVA, 24kV/600V • Protection	

Global Factories Product Line-up

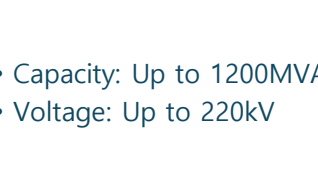
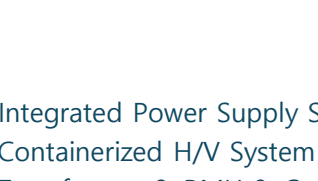
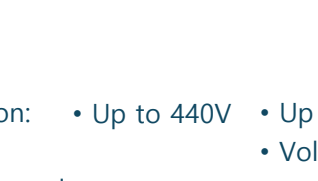
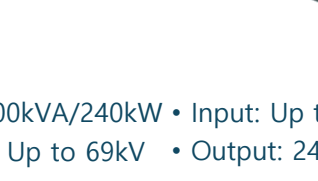
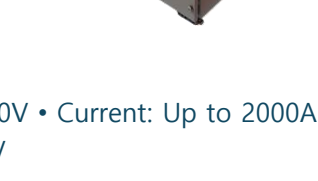


Cheongju 1, Korea

MCCB	Susol  - Up to 1000VAC, Up to 1500VDC - Up to 200kA - MCCB/DSU/Electronics	Metasol  - Up to 690VAC - Up to 1200 - Up to 125kA	BK Series  - Up to 460VAC - Up to 100A - Up to 10kA
	Susol  - Up to 1000VAC - Up to 150A - Up to 2,500,000 operations	Metasol  - Up to 1000V - Up to 2650A - Up to 2,500,000 operations	Meta MEC  - Up to 690V - Up to 16A - Up to 1,000,000 operations
	Metasol  - Up to 460VAC - Up to 1200A - Up to 125kA - Up to 2A2S time delay	32GR Series  - Up to 460VAC - Up to 100A - Up to 10kA - Residence, SI TYPE	
ACB	Susol  - C/D/E/G-Frame - Up to 1150VAC - Up to 6300A(AC)	Metasol  - D/E/F/G-Frame - Up to 690VAC - Up to 6300A(AC)	DC ACB/DSU  - E-Frame(ACB), D/E-Frame(DSU) - Up to 1800VDC - Up to 7000A(DC)
	Susol  - Up to 36kV - Up to 50kA - Up to 5000A	Metasol  - Up to 17.5kV - Up to 31.5kA - Up to 1250A	Pro-MEC  - Up to 24kV - Up to 50kA - Up to 4000A
	VCS  - Up to 12kV - Up to 4kA (with Fuse: 50kA) - Up to 400A		
GIPAM	XGIPAM  - AC110V, DC110~125V 110V, 5A, 50/60Hz - Modbus, DNP, IEC61850 Protocol - Various Option Module	GIPAM3000  - AC110V, DC110~125V 110V, 5A, 50/60Hz - Modbus, DNP, IEC61850 Protocol - GIPAM2000/2200 Alternative	GIPAM1000  - AC110V, DC110~125V 110V, 5A, 50/60Hz - Modbus Protocol - Wide range of operation environment(-40°C~70°C)
	GIPAM115  - AC110V, DC110~125V 110V, 5A, 50/60Hz - Modbus Protocol	DRP1000  - AC110V, DC110~125V 110V, 5A, 50/60Hz - Modbus Protocol	GIPAM10  - AC110V, DC110~125V 110V, 5A, 50/60Hz - Modbus Protocol
	GMP  1C:AC110V or AC220V 1a1b:AC110~220V - LED indicates cause of failure - Combined MC:SCREW/PIN/TUNEL - Current protection elements by model	DMPi  - AC/DC 85~260V 0.5~6A or 5~65A - Separated display part using cables - Combined MC:SCREW/TUNEL - Modbus / 4~20mA DC output by model	IMP  - AC/DC 85~245V 0.5~10A or 5~100A - Separated display part using cables - Combined MC:SCREW/TUNEL - Modbus / 4~20mA DC output
EMPR	IMC-III  - AC110V or AC 220V 0.5~10A or 5~100A - Motor protection and control - Modbus / 4~20mA DC output	MMP  - AC110V or AC 220V 0.5~10A or 5~100A - Motor protection and control - Various measurement(V,I,P) - Modbus / 4~20mA DC output - Motor diagnosis function	
	GIMAC-V  - AC/DC 110V±20% 10~452V 0.05~6A, 50/60Hz - Modbus Protocol - APFC Option	GIMAC-IV  - AC/DC 110V, 220V 10~230V 0.05~6A, 50/60Hz - Modbus, DNP Protocol - APFC, DEMAND CONTROL	GIMAC-PQ  - AC/DC 110V, 220V 10~230V 0.05~6A, 50/60Hz - Modbus Protocol
	GIMAC-II Plus  - AC/DC 110V, 220V 20~230V 0.05~6A, 50/60Hz - Modbus, IEC61850, DNP Protocol	GIMAC1000  - AC/DC 110~240V±10%, Free Voltage 20~452V 0.05~6A, 50/60Hz - Modbus Protocol - Compact, Free Voltage	GIMAC-DC  - AC/DC 88~264V - AC 20~452V, DC 20~264V, 50/60Hz 9~452V, 0.05~6A, 50/60Hz - Modbus Protocol - Rectifier panel - specialized product
GIMAC	GIMAC-B  - AC/DC ~220V(Normal) - AC/DC 88~264V(Min ~ Max) 9~452V, 0.05~6A, 50/60Hz - Modbus Protocol - Consists of Main and Branch module		

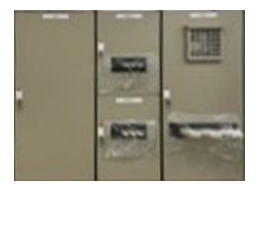
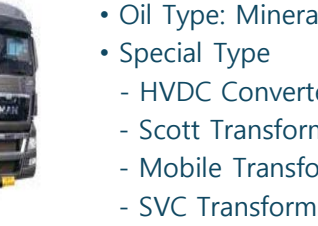
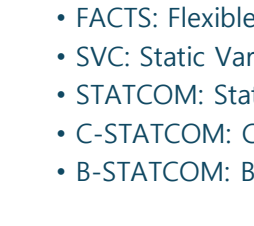


KOC, Korea

Power TR  - Capacity: Up to 1200MVA - Voltage: Up to 220kV	Oil Immersed Distribution TR  - Capacity: Up to 120MVA - Voltage: Up to 69kV	PAD / Pole TR  - Capacity: Up to 10MVA - Voltage: Up to 36kV	Cast Resin TR  - Capacity: Up to 20MVA - Voltage: Up to 36kV	Dry TR  - Capacity: Up to 5MVA - Voltage: Up to 11kV
TR 				
Packaged Power System  Integrated Power Supply Solution: Containerized H/V System & Transformer & RMU & Control panel	MSBD  Up to 440V	UPS  Up to 300kVA/240kW	Battery Charger  - Input: Up to 440V - Current: Up to 2000A	Heli-Starter  - Auto Bus Transfer - Voltage: AC 400V - Current: Up to 600A
Electric & Electronic Solution				



Cheongju 2, Korea

MV SWGR (IEC)  Up to 3150A for 24kV, 40kA	MCSG(SLVB)  Up to 3150A for 36kV, 40kA	MCSGD(DLVX)  Up to 5000A for 7.2kV, 50kA	MCSGD(DLV)  - Up to 2000A for 7.2kV, 25kA - Up to 2500A for 7.2kV, 50kA	CMCSG  Up to 630A for 24kV, 12.5kA
MV SWGR (UL)  Up to 4000A for 4.76/15kV, 50kA (IEEE C37.20.2, ANSI C37.55)	MCSG(2High)  Up to 2750A for 27kV, 40kA (IEEE C37.20.2, ANSI C37.55)	MCSG(1High)  Up to 2000A for 38kV, 40kA (IEEE C37.20.2, ANSI C37.55)		
Susol LV SWGR & MCC  - Up to 34.5kV, 30MVA - Up to 5000A for 690V, 100kA (Main / Feeder) - Up to 5000A for 440V, 100kA (MCCB PNL)	Solution 2000 MCC  Up to 1500A for 500V, 80kA (MCC)	Susol LV MDB  - Up to 5000A for 690V, 100kA (ACB PNL) - Up to 5000A for 440V, 100kA (MCCB PNL)	LV AC Drive Panel  Up to 4000A for 690V, 65kA (ACB PNL)	
LV SWGR (IEC)  Up to 6000A for 480V, 100kA (UL891 Front & Rear-access)	LV Switchboard  Up to 6000A for 480V, 100kA (UL891 Front & Rear-access)	LV Switchgear  Up to 6000A for 635V, 100kA (IEEE C37.20.1, UL1558, ANSI C37.51)	LV Panel Board  Up to 1200A for 480V, 100kA (UL67)	
TR  Up to 36kV, 30MVA				
PTR 	General PTR 	Scott Transformer 	Mobile Transformer 	- Typical Capacity: ~ 800MVA - Typical Voltage: Up to 550 kV - Oil Type: Mineral, Natural Ester - Special Type - HVDC Converter Transformer - Scott Transformer for railway - Mobile Transformer (Hybrid) - SVC Transformer
HVDC 	HVDC Converter Transformer 	HVDC Valve  - CTR: Up to DC 500 kV Class - Valve: Converting AC voltage into DC voltage and re-converting into AC voltage		
FACTS 	SVC 	C-STATCOM 	B-STATCOM 	- FACTS: Flexible AC Transmission System - SVC: Static Var Compensator - STATCOM: Static Synchronous Compensator - C-STATCOM: Container Type STATCOM - B-STATCOM: Building Type STATCOM