

MEDIUM VOLTAGE POWER STATION CUSTOMIZED UP TO 7.86 MVA, WITH ALL THE COMPONENTS SUPPLIED ON TOP OF THE SAME SKID PLATFORM

This medium-voltage solution integrates all the devices required for a multi-megawatt battery energy storage system.

Maximize your investment with a minimal effort

Ingeteam's FSK power station is a compact, customizable and flexible solution that can be configured to suit each customer's requirements. It is supplied together with up to two storage inverters. All the equipment is suitable for outdoor installation, so there is no need of any kind of housing.

Higher adaptability and power density

This power station is now more versatile, as it presents the step-up transformer integrated into a steel platform together with the LV and MV components, including the storage inverters. Moreover, it features one of the market's greatest power densities.

Plug & Play technology

This MV solution integrates power conversion equipment (up to 7.86 MVA), liquid-filled hermetically sealed transformer up to 38 kV and provision for low voltage equipment. The MV Skid is delivered pre-assembled for a fast onsite connection with up to two storage inverters from Ingeteam's INGECON® SUN STORAGE 3Power HV C Series battery inverter family. The full skid is lifted as a single block and it is transported within an open top 40 ft container.

Complete accessibility

Thanks to the lack of housing, the inverters, the switchgear and the transformer can have immediate access. Furthermore, the design of the 3Power HV C Series storage inverters has been conceived to facilitate maintenance and repair works.

Maximum protection

Ingeteam's 3Power HV C Series storage inverters feature an IP65 protection class for their power stacks thanks to a combined water and air cooling system that optimises the operating temperature of the power electronics. Apart from that, they feature the main electrical protections and they deploy grid support functionalities, such as low voltage ride-through capability, reactive power deliverance and active power injection control.

Medium voltage power station customized up to 7.86 MVA, with all the components supplied on top of the same skid platform

Construction

- Steel base frame.
- Suitable for slab or piers mounting.
- Compact design, minimising freight costs.
- Minimum installation at project site.

Optional accessories

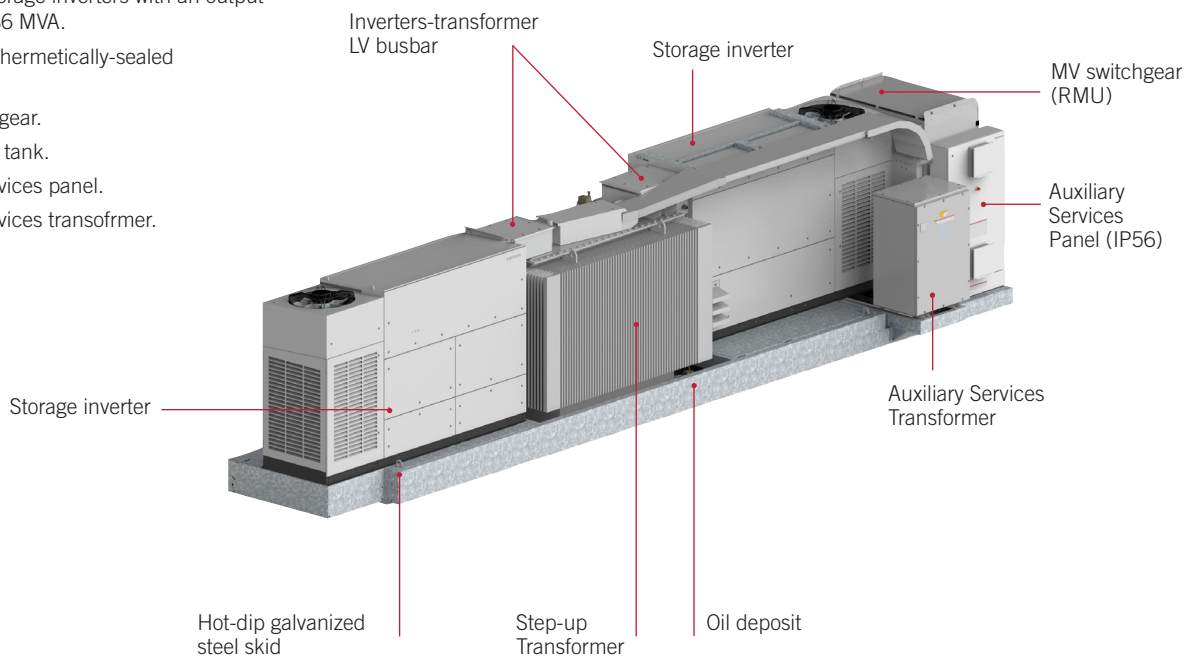
- Auxiliary services transformer (up to 60 kVA, Dyn11).
- MV Surge arresters.
- Self-powered auxiliary services panel.
- High-speed Ethernet / fibre optic communication switch.

- Energy meter for auxiliary services and/or energy production.

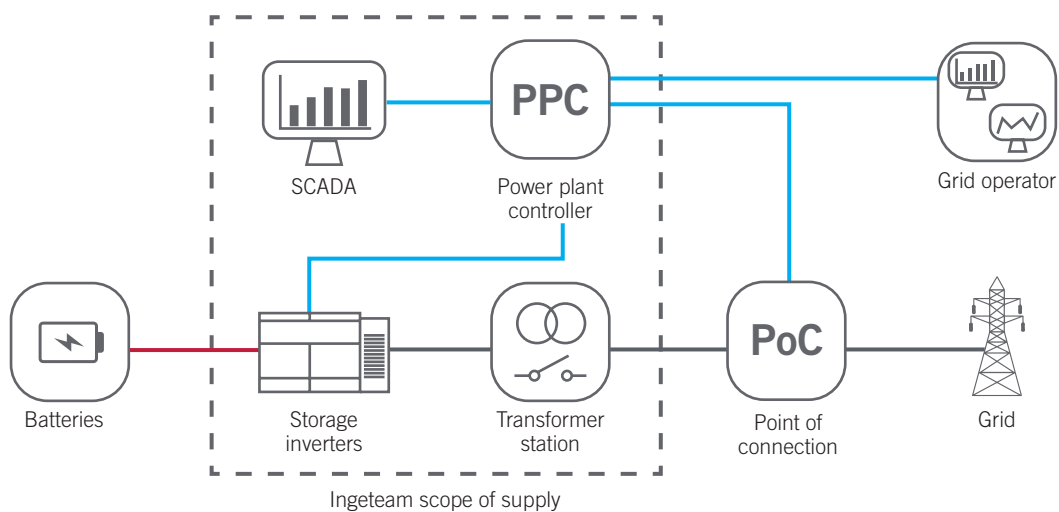
Standard equipment

- Up to two storage inverters with an output power of 7.86 MVA.
- Liquid-filled hermetically-sealed transformer.
- 2L1C switchgear.
- Oil-retention tank.
- Auxiliary services panel.
- Auxiliary services transformer.

Components



Plant configuration



3930 FSK HV C Series
7860 FSK HV C Series
GENERAL INFORMATION

	1	2
Number of inverters	1	2
Discharge power @1,500 Vdc (30 °C / 50 °C) ⁽¹⁾	3,928 kVA / 3,171 kVA	7,856 kVA / 6,342 kVA
Discharge current @1,500 Vdc (30 °C / 50 °C)	2,700 A / 2,180 A	
Charge power @1,500 Vdc (30 °C / 50 °C) ⁽¹⁾	3,730 kVA / 3,013 kVA	7,460 kVA / 6,026 kVA
Charge current @1,500 Vdc (30 °C / 50 °C)	2,564 A / 2,071 A	
Operating temperature range	from -20 °C to +60 °C	
Relative humidity (non condensing)	0 - 100%	
Maximum altitude	3,000 masl (power derating starting at 1,000 masl)	

STEP-UP TRANSFORMER

Medium voltage	36 kV, 50-60 Hz
Cooling system	ONAN (KNAN optionally)
Minimum PEI (Peak Efficiency Index) ⁽²⁾	99.50%
Protection degree	Readiness for outdoor installation

MV SWITCHGEAR (RMU)

Medium voltage	24 kV / 36 kV
Rated current	630 A
Cooling system	Natural air ventilation
Protection degree	IP54

EQUIPMENT

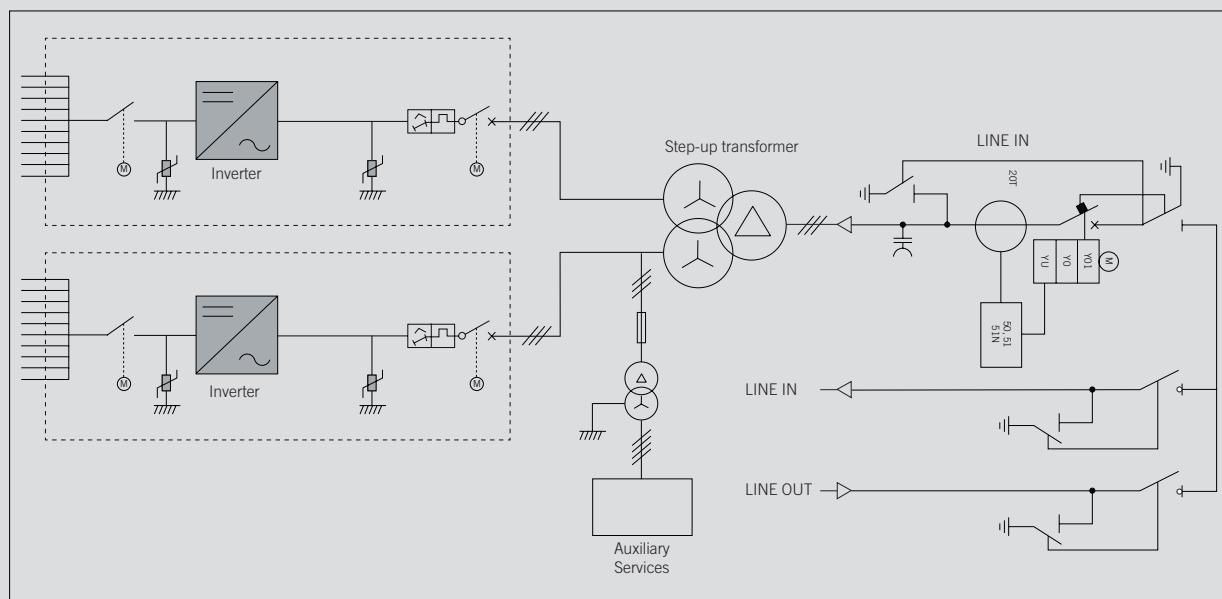
Auxiliary services panel	IP54 self-powered LV panel
Step-up transformer	Oil-immersed hermetically sealed transformer
MV Switchgear	2L1C RMU as standard (0L1C1L, 1L1C & 0L1C optional)

MECHANICAL INFORMATION

Structure type	Hot dip galvanized steel skid	
Dimensions Full Skid (W x D x H)	9,500 x 2,600 x 2,620 mm	11,390 x 2,600 x 2,620 mm
Weight	16 T	25 T
Standards	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1	

Notes

- (1) Data calculated with the inverter model INGECON® SUN STORAGE 3930TL HV C840. For other storage inverter models, please contact Ingeteam's BESS sales department.
(2) For European installations, ECO design according to the EU 548/2014 and EU 2019/1783 standards.

Example of configuration with two HV C series storage inverters


**Ingeteam Power Technology S.A. - Energy**

Sarriguren (Navarra), ESPAÑA
(+34) 94 828 80 00
energy@ingeteam.com

Ingeteam Power Technology S.A. - Paneles

Sesma (Navarra), ESPAÑA
(+34) 94 869 84 55
paneles@ingeteam.com

Ingeteam Power Technology S.A. - Service

Albacete, ESPAÑA
(+34) 96 724 55 04
service@ingeteam.com

Ingeteam Power Technology S.A. - Technology

Zamudio (Bizkaia), ESPAÑA
(+34) 94 403 96 00
technology@ingeteam.com

Ingeteam Power Technology S.A. - Electronics

Zamudio (Bizkaia), ESPAÑA
(+34) 94 403 96 00
ingeteam.electronics@ingeteam.com

Ingeteam Power Technology S.A. - Converters

Ortuella (Bizkaia), ESPAÑA
(+34) 94 403 96 00
technology@ingeteam.com

Ingeteam Indar Machines S.A.

Beasain (Gipuzkoa), ESPAÑA
(+34) 94 302 82 00
indar@ingeteam.com

Ingeteam R&D Europe, S.L.

Zamudio (Bizkaia), ESPAÑA
(+34) 94 403 96 00

Ingeteam SAS

Labège, FRANCIA
33 (0) 5 61 25 00 00
france@ingeteam.com

Ingeteam UK LTD

East Kibride, REINO UNIDO
+44 (0) 141 488 5290

Ingeteam S.r.l

Castel Bolognese (RA), ITALIA
(+39) 0546 651490
italia.energy@ingeteam.com

Ingeteam GmbH

Düsseldorf, ALEMANIA
+49 (0) 211 7817 7950
deutschland@ingeteam.com

Ingeteam a.s.

Ostrava-Pustkovec, REPÚBLICA CHECA
+42(0) 59 747 68 20
czech@ingeteam.com

Ingeteam Sp.zo.o.

Warsaw, POLONIA
+48 22 821 99 30
polska@ingeteam.com

Ingeteam Service s.r.l.

Constanta, RUMANIA
(+40) 728 993 202

Ingeteam Bulgaria EAD

Kavarna, BULGARIA

Ingeteam Inc Headquarters

Milwaukee, EE.UU.
(+1) 414 934 4100
usa@ingeteam.com

Ingeteam México S.A. de C.V.

Ciudad de México, MÉXICO
(+52) 55 6586 9930
northamerica@ingeteam.com

Ingeteam México S.A. de C.V.

Juchitán (Oaxaca), MÉXICO
+52 971 281 0996
service@ingeteam.com

Ingeteam SpA

Las Condes, Santiago CHILE
(+56) 232 637 200
chile@ingeteam.com

Ingeteam Uruguay S.A.

Montevideo, URUGUAY
+59 8 2623 2805

Ingeteam Panamá S.A.

Penonomé, PANAMÁ
(507) 66444834
service@ingeteam.com

Ingeteam Ltda.

São Paulo, BRASIL
(+55) 19 30 37 37 73
brazil@ingeteam.com

Ingeteam Ltda.

Curitiba, BRASIL
(+55) 41 32769841
brazil@ingeteam.com

Ingeteam Power Technology Shanghai Co., Ltd

Shanghai, CHINA
+86 139 1622 4886
liu.yimin@ingeteam.com

Ingeteam Vietnam CO., LTD

Hanoi City, VIETNAM

Ingeteam Power Technology SA

Abu Dhabi, UAE
+971 2 207 666

Ingeteam Power Technology India Pvt. Ltd.

Tamilnadu, INDIA

Ingeteam Morocco SARLAU

Casablanca, MARRUECOS

Ingeteam Australia Pty Ltd

North Wollongong, AUSTRALIA