

## 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

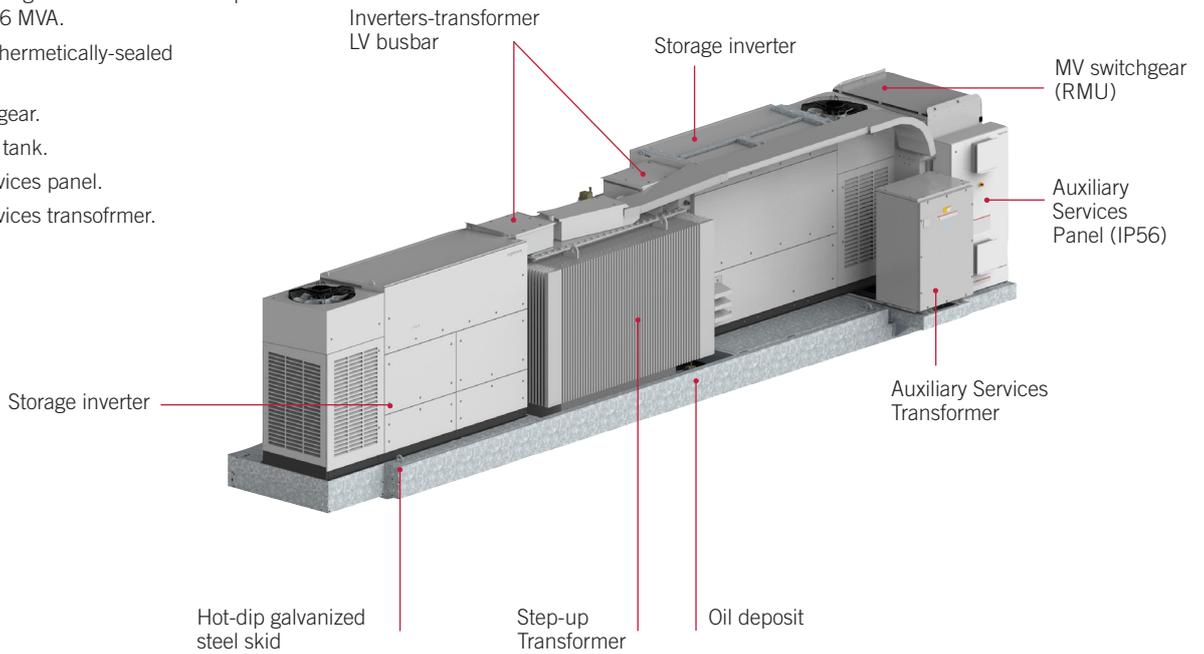
- Auxiliary services transformer (up to 60 kVA, Dyn11).
- MV Surge arresters.
- Self-powered auxiliary services panel.
- High-speed Ethernet / fibre optic communication switch.

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

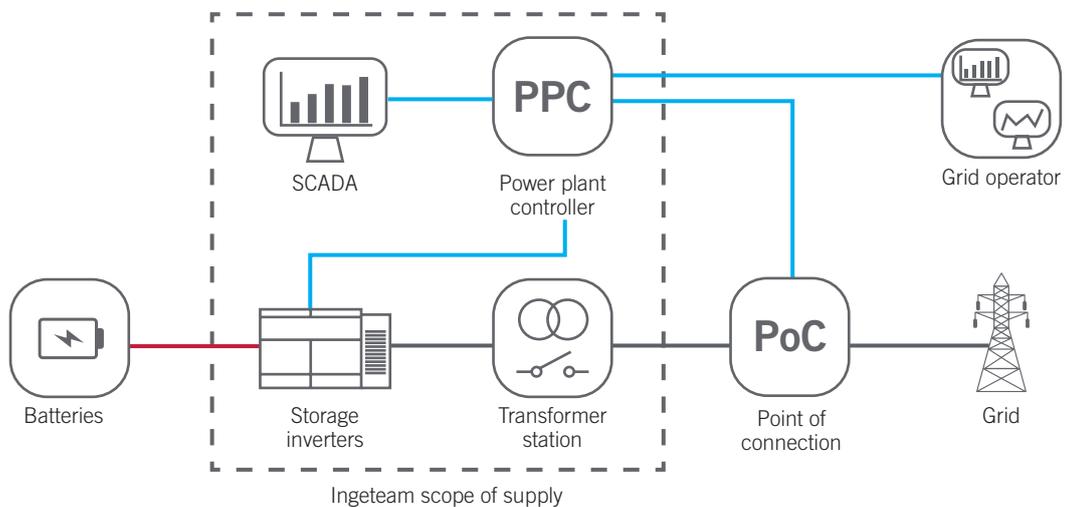
### Standard equipment

- 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

|   |  |                       |
|---|--|-----------------------|
| Number of inverters                                       | 1  | 2                     |
| Discharge power @1,500 Vdc (30 °C / 50 °C) <sup>(1)</sup> | 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) <sup>(1)</sup>    | 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) <sup>(2)</sup> | 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) |

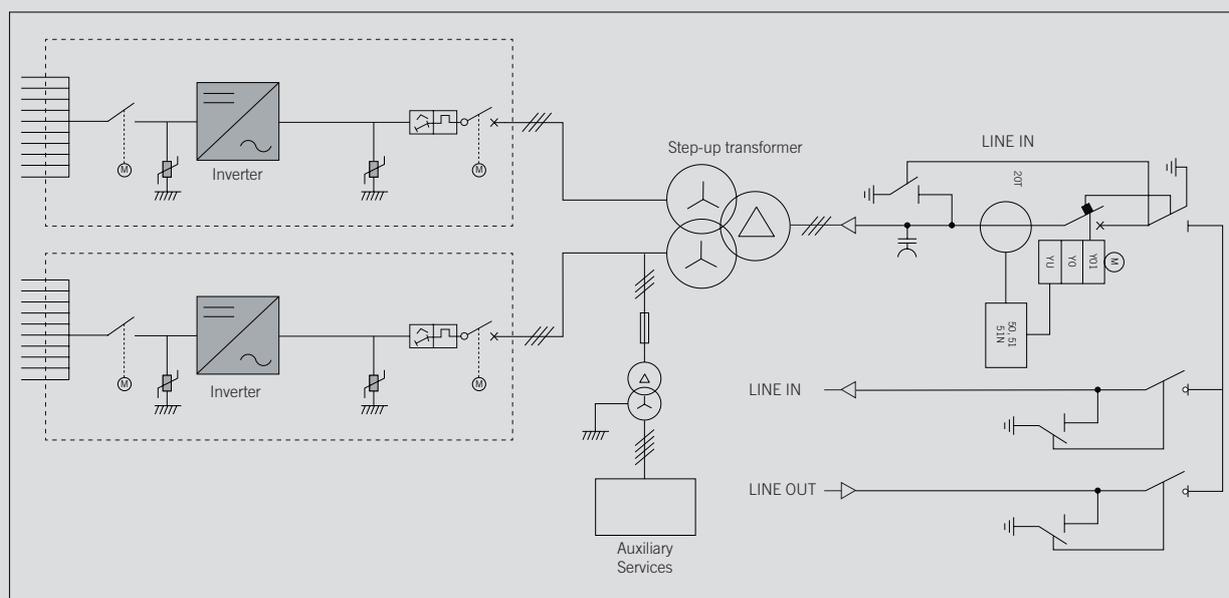
MECHANICAL INFORMATION

|                                  |  |                           |
|----------------------------------|--|---------------------------|
| 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



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