

An aerial night view of a city, likely New York City, with numerous skyscrapers and city lights. Overlaid on the image are digital elements: a grid of binary code (0s and 1s) in the upper left, a glowing orange and yellow light trail curving across the middle, and a semi-transparent blue rectangular box in the lower left containing the title. The Siemens logo is in the top right, and a white box with 'Solution Partner' and 'Power Distribution' text is in the bottom right.

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8FB – Compact Substation

Solution Partner

Power Distribution

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Design and advantages of prefabricated compact substation

according 62271-202

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Factory-assembled packaged substations

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Key features

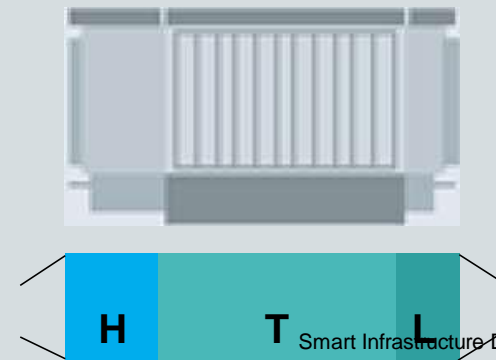
- **Compact design** → small footprint → saving costly ground
- **Prefabricated** → fully tested → nearly no commissioning required
- **Standardized solution** → less order execution efforts
- **IAC Classification** as per IEC62271-202 → high level of personnel safety
- **Type tested** as per IEC62271-202 (create new requirements in the market)



Substation Housing type:

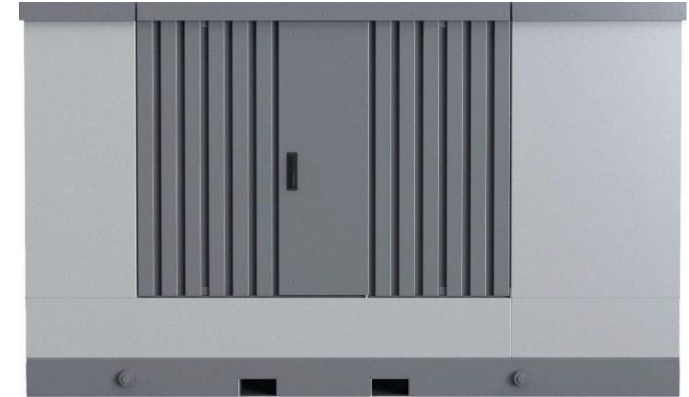
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- H** High-voltage section
(SF6 insulated RMU up to 24kV)
- T** Transformer section
- L** Low-voltage section



Layout

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- **Lifting provision for forklift** → no crane required
- **Easy installation** of transformer by removing the side walls
- **Long lasting material** by using well known technology of powder coating
- **Segregation of LV / HV / Transformer room** → Authority for access
- **The perfect compromise** → high ventilation in combination of high IP degree protection

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Smart Infrastructure Distribution Systems

Product Quality and Customer Benefits



Quality assurance:

The compact sub is manufactured in accordance with the latest IEC62271-202 and Siemens high standards for quality and environment (ISO9001 and ISO 14001)

Climatic and Environmental Protection:

The compact sub enclosure is designed for withstanding the harsh climatic conditions by high quality surface treatment and powder coated paint as per proven Siemens Standard.

This ensures the exterior / interior finish remain intact for all environmental and climatic changes

Advantages:

- Complying with latest IEC 62271-202 standard
- Different range of distribution transformers
- Maintenance free ring main unit 8DJH, type tested for internal arc fault
- Reduced overall engineering due to less interfaces
- Reduced operating costs due to maintenance free design

Internal Arc Classification of prefabricated substation acc. IEC 62271 - 202

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► Qualifications:

- IAC-A protection of the operators
- IAC-B protection of the general public
- IAC-AB protection of both the operators and the general public



IAC-A (substation doors open)



IAC-B (substation doors closed)

Type tests

- IAC-A 20 kA / 1 s
- IAC-B 20 kA / 1s
- STC 20 kA / 1 s
- IP degree (LV 54 / TR 23 / MV 54)
- Mechanical impact (IK10) Temperature Class 10*