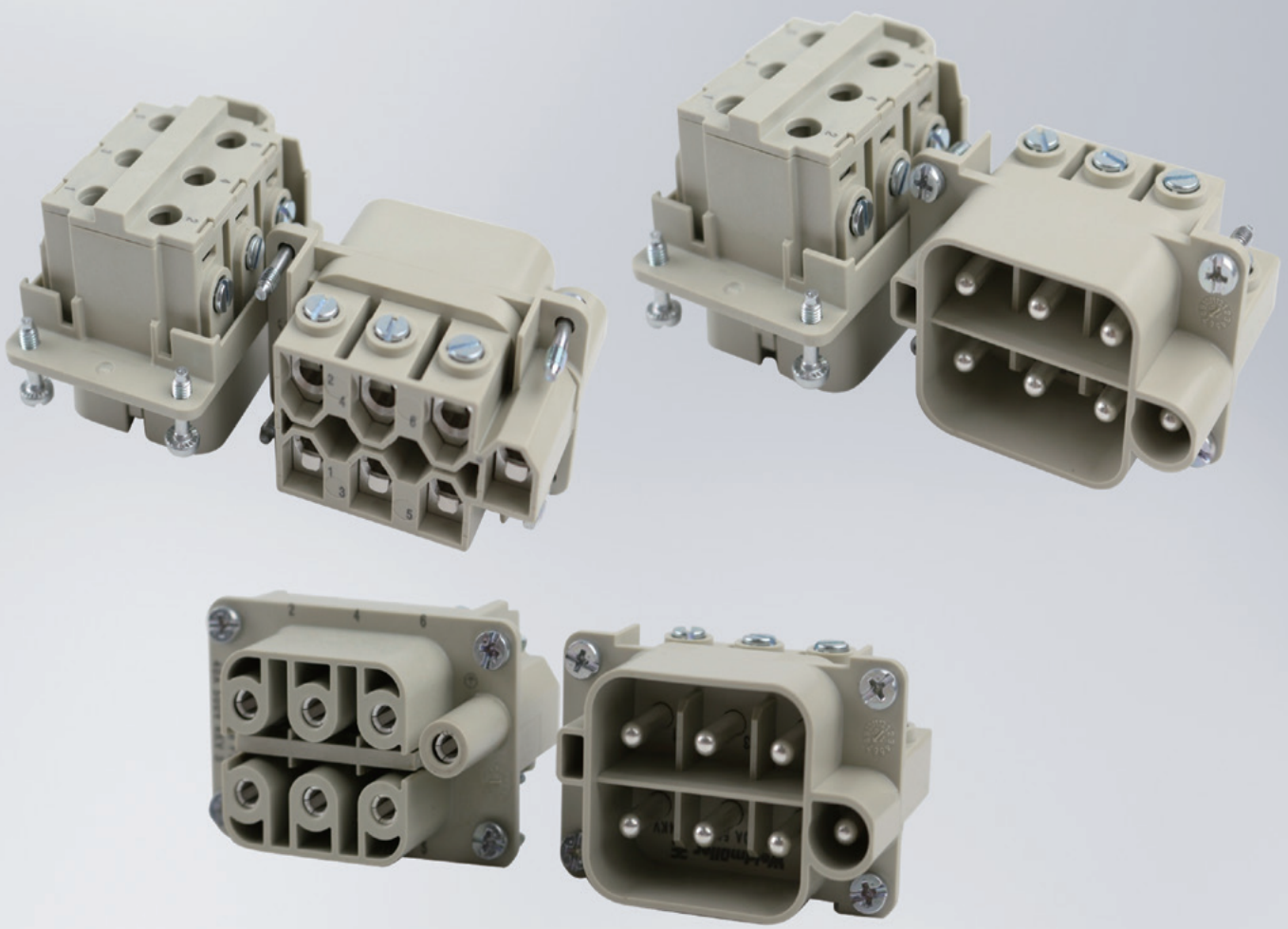
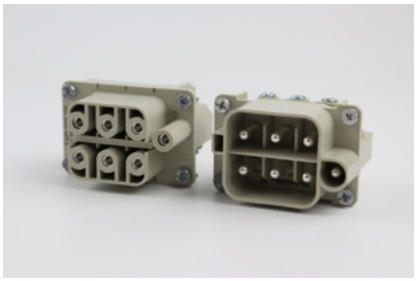
Weidmüller
HDC Anti-Open Series



HDC Anti-open Circuit Product

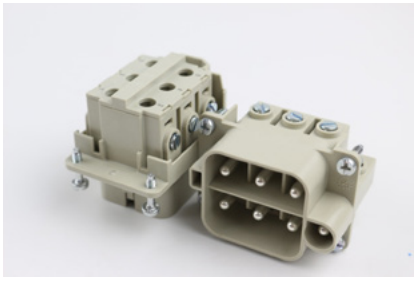
Product Overview



Weidmüller is the leading international working condition solution provider of power supplies, signals, as well as data processing for electrical connections, transmission fields, and industrial environments.

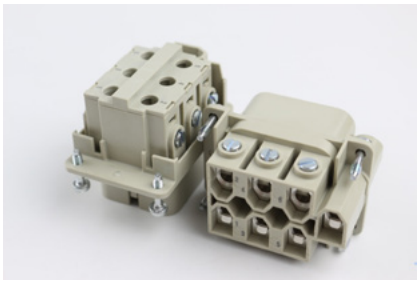
The HDC Anti-open Circuit Connector series products are the result of new technology R&D in the electrical connections field to provide high performance and innovative electrical connection solutions to the power industry, which has been the long-term focus of Weidmüller. The seamless internal switch mechanism of the Anti-open Circuit Connector enables anti-open circuit connection for the current transformer (CT) secondary circuit.

Application Introduction



The innovative product developed by Weidmüller:
Heavy-duty anti-open circuit connector designed for current transformer (CT) secondary circuit power transmission.

When the CT is running in the power system, the secondary circuit is not permitted to open. That is, when the CT is working, the secondary circuit must have an open circuit prevention measure. If the secondary circuit is opened when the CT is running, the winding of the secondary device will produce a very high induction potential that may cause electrical shock injuries, equipment insulation breakdown, and severe safety accidents. Meanwhile, the condition may also severely overheat the CT core(s) and cause damages.



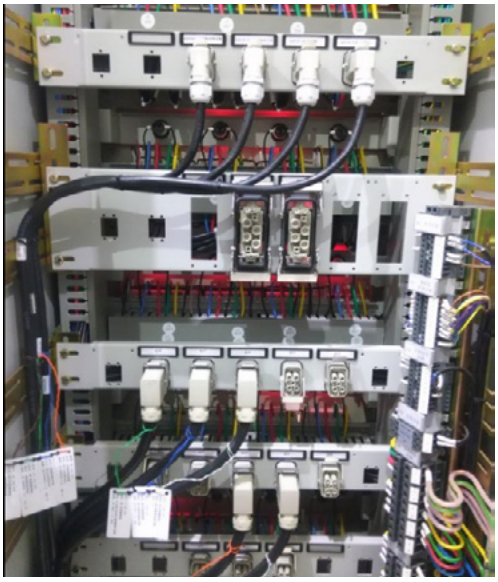
The HDC Anti-open Circuit Connector can be directly applied to the power distribution, or the power transformation automation terminal device itself, and used as a conversion terminal installed in the box or cabinet. During the transition from the plug-in state to the separation state for the HDC Anti-open Circuit Connector's plug and socket, the short-circuit mechanism of the Connector would automatically short the circuit to ensure that the CT secondary circuit is closed, thus ensuring personnel and equipment safety.

The power distribution automation terminal device includes the feeder column Feeder Terminal Unit (FTU), Transformer Terminal Unit (TTU), Ring Main Unit, power distribution room, switching station, and remote monitoring Data Transfer Unit (DTU) of the box-type substation. Its main purpose is to achieve monitoring and data collection of the power distribution network equipment; and the system has remote signalling, telemetry, remote control, fault current detection, relay protection, and communication forwarding as well as fault diagnosis, isolation, positioning and recovery functions.

Power transformation automation terminal devices contain measurement and control, protection, and other automation devices. Its primary function is to monitor, measure, record, and process a variety of information for the primary as well as secondary equipment of the substation, and achieve the remote control functions for main devices of the substation.

The HDC Anti-open Circuit Connector is indispensable between power distribution as well as power transformation automation terminal devices and equipment such as field switches/circuit breakers to achieve rapid connections.

The 6-pin Anti-open Circuit Connector product adopts the Weidmüller standard HDC (heavy duty) size 3 shell with screw connections suitable for field wiring. It also supports down-scaling to 2-core and 4-core anti-open circuit products.



Technical parameters

Standard	
	DIN EN 61984
	DIN EN 60664-1
Core Insert	
Number of pins:	6+PE
Rated voltage:	500V AC
Proof pressure:	3.31KV
Rate pulse voltage:	6KV
Rated voltage:	40A
Short-time impulse current:	480A/1s
Pollution level:	3
Insulation resistance:	≥1010Ω
Material:	Fibre glass reinforced PC
Temperature range:	-40°C...+125°C
Flame retardant rating:	V0 (according to UL94)
Mechanical life:	≥500
Contact Impedance:	≤1mΩ
Pin/Socket/PE Connection	
Material:	Copper alloy
Surface:	Silver Plating
Wiring range:	1.5 ... 4mm²
Stripping length:	11mm
Tightening torque:	1.2 ... 1.5Nm
Screwdriver head:	0.6 x 3.5 or 0.8 x 4mm

Working Principle Description

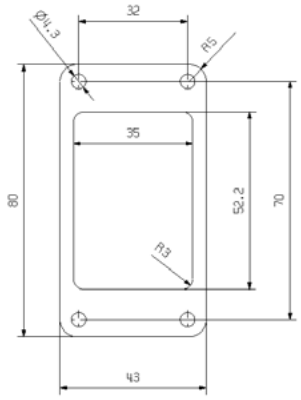
1: During the plug-in process, the plug's female jack first aligns with the pins of the male jack for docking. At this point, the action mechanism has not yet been connected and the plug end remains in a short state.

2: In the next plug-in process, the action mechanism is triggered into action, the circuit inside the plug end is opened, the male and female pins are fully plugged-in, the current forms an electrical circuit through the male and female pins, without any open way in the entire circuit.

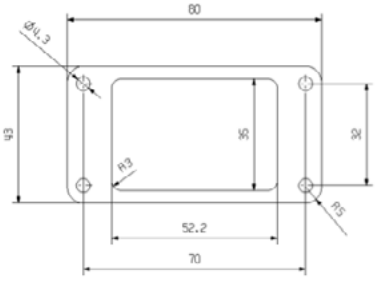
3: Finally, the plug is plugged into a locked position and the equipment works properly.

Panel Hole Diagram

The steps are reversed during the separation process

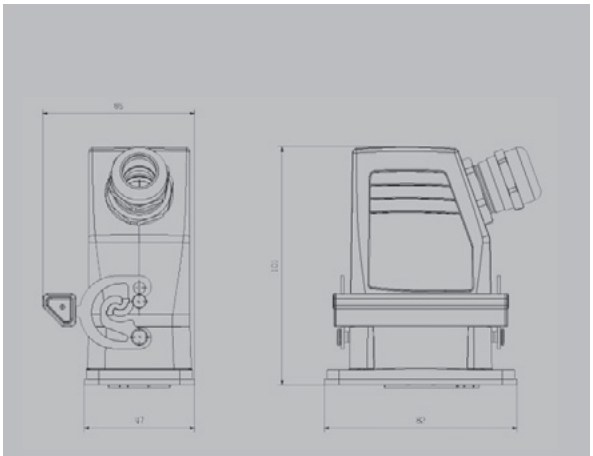


Vertical Hole Diagram

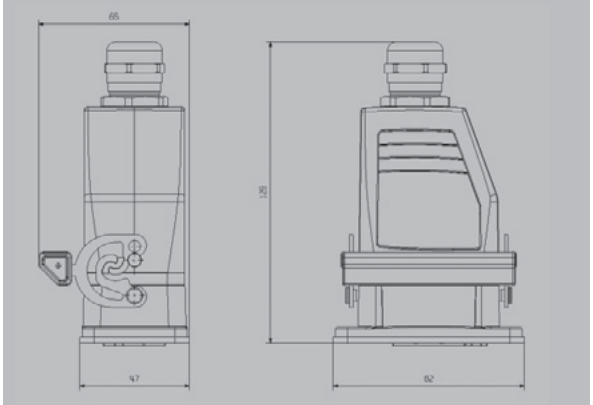


Horizontal Hole Diagram

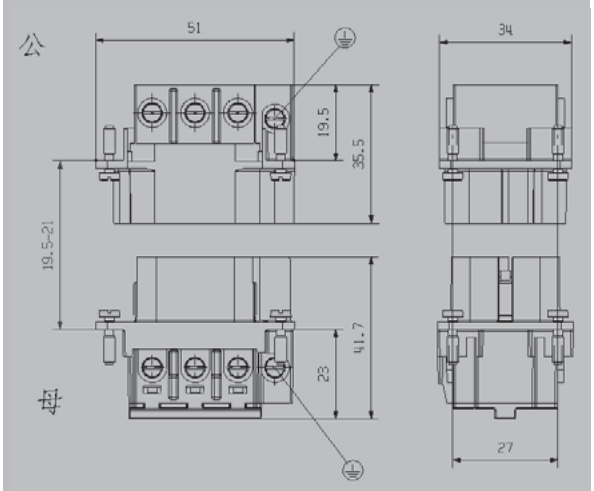
Size



Side-view Incoming Line Diagram

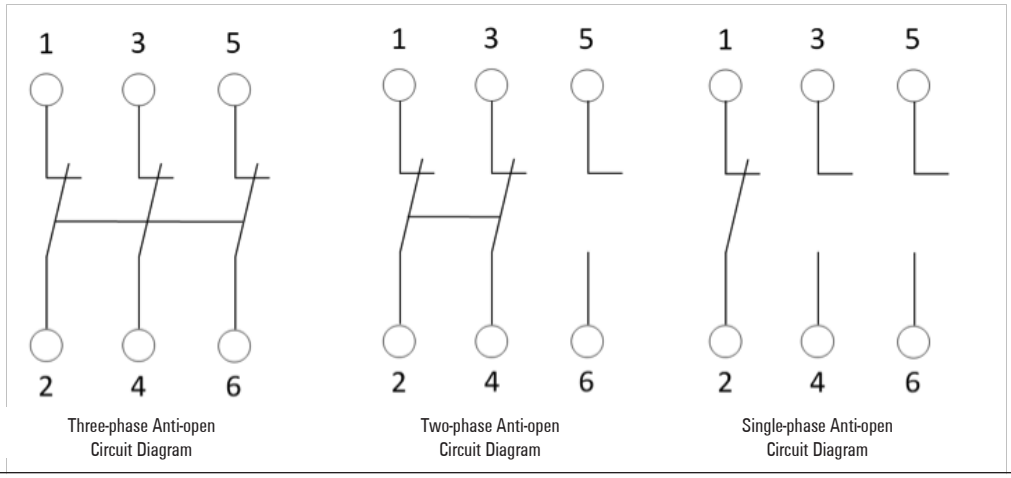


Top-view Incoming Line Diagram



Core Insert Size Diagram

Circuit



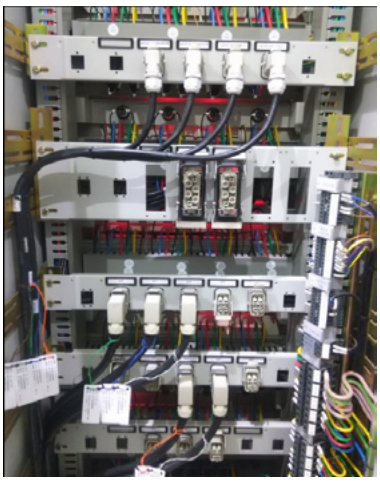
Please contact Weidmüller for any special circuit requirements!

Characteristics and Advantages

- Based on Weidmuller's mature and widely used RockStar heavy-duty connector technology with a high degree of protection
- Compact size, standard size 3 shell, and flexible configuration
- Adopts the screw connection wiring method that provides high efficiency and is easy to maintain
- Adopts a rectangular structure, clear wiring, and easy wiring-error prevention code
- Normal working current rating 40A, short-time withstand current up to 480A, and highly reliable
- Supports 4 square cross-sectional area wiring and can minimize the CT measurement error with long cables
- Achieves safety isolation via the secondary grounding, conforming to the grid specifications
- Equipped with special secondary shield wiring points to facilitate easy and reliable wiring
- Flexible scalability that can be configured into single-phase, two-phase, and three-phase anti-open circuit products with uniform and beautiful appearances
- Modular design, and the anti-open circuit core insert can be installed inside the plug-end or the socket-end of the shell as needed
- The anti-open circuit mechanism location is visible, intuitive, and safe

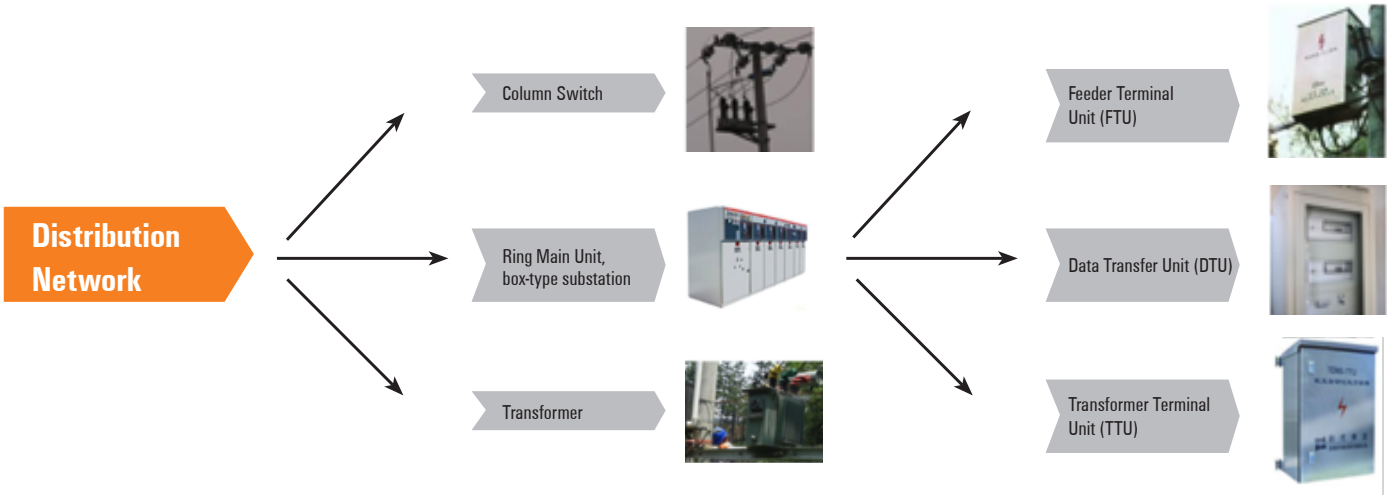
Order Information

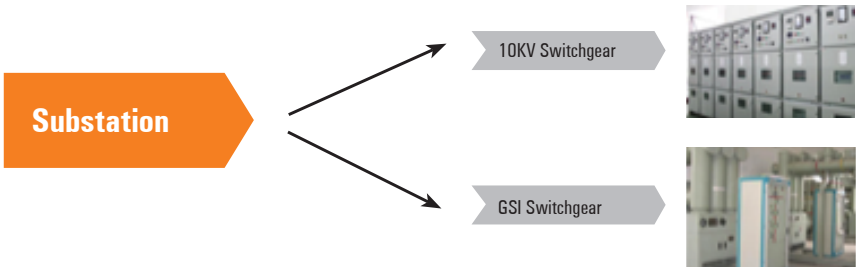
The Weidmüller HDC Anti-open Circuit Series Product order number is HDC-AOC-XXXX.
This is a customized product that can be configured into 6-core, 4-core, or 2-core anti-open circuit based on the customer's needs. Please see the circuit diagram arrangement in Chapter 2 for details.
Customer can customize spare parts or order kits as needed.
Please contact Weidmüller for detailed order information.



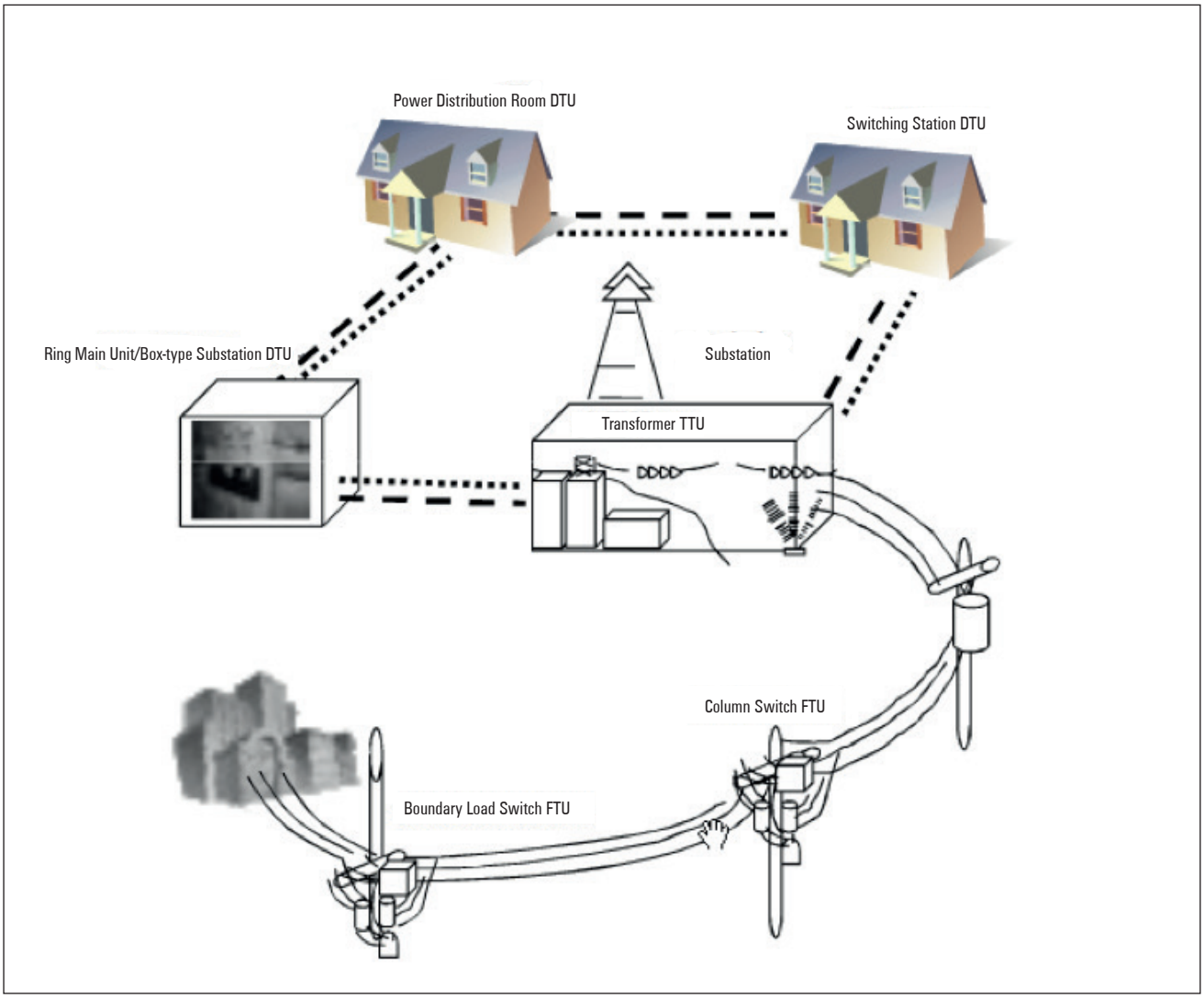
Typical Application – Power Distribution Automation

CT Anti-open Circuit





Substation Integrated Automation


Power Distribution Room DTU
Switching Station DTU
Ring Main Unit/Box-type Substation DTU
Substation
Transformer TTU
Column Switch FTU
Boundary Load Switch FTU

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All orders are based on our general terms of delivery, which can be reviewed on the websites of our group companies where you place your order. On demand we can also send the general terms of delivery to you.

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