CONTROLLER
FEEDER TERMINAL FTU



OVERVIEW

The CSP5100 Distribution Automation Feeder Terminal unit (hereinafter referred to as CSP5100) is an advanced automatic control terminal designed by Ole Power for distribution line automation. Incorporating extensive experience from previous feeder automation terminal designs, it integrates cutting-edge communication, measurement and control, and distributed intelligence processing technologies. This new generation microprocessor-based distribution automation terminal combines the "Four Remote" functions (telemetry, teleindication, telecommand, and teleadjusting) with automation and communication capabilities.

Equipped with intelligent distributed fault local processing functionality, the CSP5100 utilizes Ethernet communication to enable reliable fault information exchange between sites through peer-to-peer communication. With built-in fault processing logic, it intelligently determines switching operations based on information from adjacent sites, achieving distributed fault handling on feeders. Suitable for various loop and non-loop distribution network feeder lines and branch lines, it pairs with pole-mounted circuit breakers (load switches) in 10-35kV distribution networks to complete feeder monitoring, fault identification, and supports both serial and Ethernet communication.

Structural Features
The CSP5100 feeder automation terminal features an integrated chassis design with front-opening single door and wall-mounted installation structure for easy installation. The device offers flexible module configuration: featuring a plug-in chassis structure with diverse I/O plugin options that allow flexible expansion, meeting requirements for various complex configurations.

TECHNICAL DATE SHEET

No.	Parameter		Unit	Standard Reference Value
1	Environmental Conditions	Temperature	℃	-40 ~ +70
		Humidity	%	5 ~ 100
		Atmospheric Pressure	Kpa	70~106
2	Mechanical Performance	Enclosure Protection	/	Ip65 per GB/T4208, suitable for maintenance-free operation in harsh indoor/outdoor environments, enhancing product competitiveness.
3	Rated Date	Device Power Supply	/	DC24V
		AC Voltage	/	220V/100V 50Hz
		AC Current	A	1/5
4	Power Consumption	DC Loop	W	< 15
		AC Voltage	VA/Phase	< 0.75
		AC Current	VA/Phase	< 0.75
5	Measurement Range & Overload Capacity	AC Voltage	/	1.2×rated: continuous;
		AC Current	/	2×rated: continuous;10×rated: 1 second allowed
6	Power Supply	Main Power Supply	/	Main Power Supply for Feeder Terminal: AC 220V (±20% tolerance) input Total power consumption of dual AC power automatic switching function: <20W
7	Accuracy of Telemetry Measurements	Voltage	/	≤0.5%(Class 0.5）
		Current	/	≤0.5%(Class0.5）
		Power	/	≤1%(Class 1.0 ）
8	Teleindication Input	Signal Input Method	/	Dry Contact
		Input Circuit	/	Opto-isolated
		Contact Voltage	/	DC24V
		Teleindication SOE Resolution	ms	≤2
		Software Debouncing Time	/	0-60000ms configurable
9	Telecommand Output (Choose One)	(1) Operating Voltage	/	DC24V/DC48V/AC220V
		(1) Output Method	/	Relay normally open contact
		(1) Contact Capacity	/	AC250V, 16A; DC30V,16A
		(2) Operating Voltage	/	DC220V
		(2) Output Method	/	IGBT switch tube
		(2) Contact Capacity	/	DC600V, 60A

TECHNICAL DATE SHEET

No.	Parameter		Unit	Standard Reference Value
10	Electromagnetic Compatibility (EMC)	Electrostatic Discharge	/	Electrostatic Discharge (ESD) Test Complies with GB-T15153.1-1998: Discharge Method: Contact discharge Severity Level: Level 4 Test Voltage: 8kV
		HF Electrostatic Field	/	HF Electromagnetic Field Immunity Test Complies with GB-T15153.1-1998: Equipment Status: Operating normally Frequency Range: 80MHz~1000MHz Severity Level: Level 4 Test Field Strength: 10V/m
		Fast Transient	/	Fast Transient/Burst Immunity Test Complies with GB-T17626.4-2008: (1):Equipment Status: Operating normally Test Application: Power supply ports to ground Severity Level: Level 4 Test Voltage: 2kV (2):Equipment Status: Non-operating Test Application: Power supply ports to ground Severity Level: Level 4 Test Voltage: 4kV (3):Equipment Status: Operating normally Test Application: Current/voltage input terminals Severity Level: Level 4 Test Voltage: 1kV (4):Equipment Status: Operating normally Test Method: Capacitive coupling clamp applied to I/O signal, data, control, and communication lines Severity Level: Level 4 Test Voltage: 1kV
		Surge Impact		Surge Immunity Test Complies with GB-T15153.1-1998: Severity Level: Level 4 Test Voltage: 2kV (between power supply terminals); 4kV (between power supply ports and ground) Waveform: 1.2/50μs
		Damped Oscillatory Wave	/	Damped Oscillatory Wave Test Complies with GB-T15153.1-1998: Voltage rise time (first peak): 75ns ±20% Oscillation frequency: 100kHz and 1MHz ±10% Voltage peak: 2.5kV common mode; 1.25kV differential mode
		AC Magnetic Field	/	Power Frequency Magnetic Field TestComplies with GB-T15153.1-1998: Under normal operating conditions, the terminal operates normally when placed at the center of a coil generating a uniform magnetic field with sinusoidal time variation at the same frequency as the system power supply, with a strength of 0.5mT (400A/m).
		Voltage Dips & Interruptions	/	Voltage Dips and Interruption Immunity Test Complies with GB-T15153.1-1998: Voltage dips: Severity Level 2 Voltage interruptions: Severity Level 2

TECHNICAL DATE SHEET

No.	Parameter		Unit	Standard Reference Value
11	Insulation & Withstand Voltage	Insulation Resistance	/	The insulation resistance between input/output circuits and ground, and between circuits, is not less than: 10MΩ (tested under normal conditions) 1MΩ (tested under damp heat conditions)
		Dielectric Strength	/	The power supply, AC input/output circuits, and output relay normally open contacts withstand an AC voltage test with: rated power: 50Hz, effective value: 2.0kV, duration: 1 minute, no breakdown or flashover occurs.
		Impulse Voltage	/	het power supply, input, and output circuits to ground and between circuits withstand a short-duration impulse voltage of 5kV standard lightning wave.

CSP5100 DISTRIBUTION AUTOMATION FEEDER TERMINAL UNIT (FTU)

MODEL AND NOMENCLATURE

CSP 5100 -F-T-B-E

- Operating Power Supply:
  A. DC24V C. Dry Contact E. DC220V
  B. DC48V D. DC110V
- Device Power Supply:
  A. AC/DC220V B. DC48V C. DC24V
- T: Spring
  D: Electromagnetic
  Y: Permanent Magnet
- F: Load Switch
  D: Circuit Breaker
- Design Number
- Microprocessor-Based Protection and Automation Device Model

FUNCTIONS

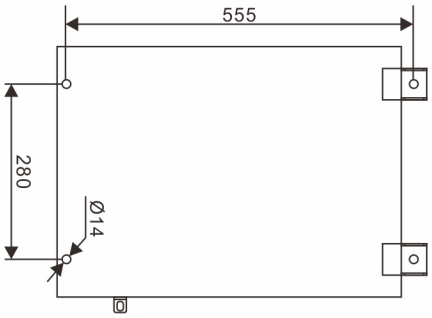
No.	Parameter	Standard Reference Value
1	Information Acquisition	Acquires status information with critical status change reporting and SOE functionality
		Collects voltage and current data to calculate RMS values, active power, frequency, zero-sequence current, and other parameters
2	Date Processing & Transmission	Fixed-point recording and storage of telemetry data
		Detects telemetry extremes and generates vertical records
		Master station polling for all data (current telemetry values, status information)
		Historical data polling (telemetry fixed-point records, extreme value records)
		Identifies faults via AC sampling (e.g., telemetry limit alarms, overcurrent) and uploads fault alarms via virtual teleindication signals
		Detects and records fault occurrence time
		Features configurable telemetry deadband parameters, with active reporting or polled response for data exceeding deadband
3	Protection Functions	Overload alarm
		Time-limited instantaneous overcurrent protection and overcurrent protection
		Zero-sequence current protection.
4	Telecommand Functions	Receives and executes telecommands or local control commands with feedback verification; compatible with various reclosers, circuit breakers, and load switches for operations
		Stores telecommand records
		Smart power management
5	Time Recording & Reporting	Records and reports switch status change times
		Records and reports fault occurrence times and types
6	Communication Functions	Supports Ethernet, GPRS/CDMA, serial communication, and other methods
		IEC 60870-5-101:2002, IEC 60870-5-104:2006, and other protocols; various COMM. expansions
7	Configuration Functions	Clock setting functionality, capable of receiving time calibration commands from superiors
		Parameter setting functionality for current, voltage settings, etc
8	Self-Diagnosis & Recovery	Comprehensive self-diagnosis features
		Hardware/software watchdog functionality
		Uploads software/hardware faults via virtual teleindication signals

PRODUCT DIMENSIONS AND CUTOUT DIMENSIONS

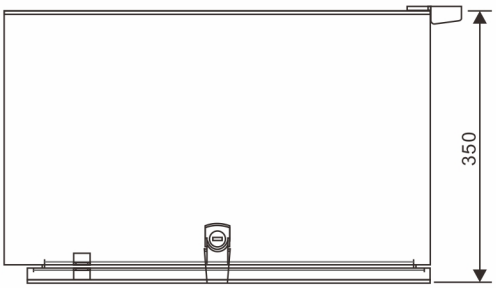
Front View



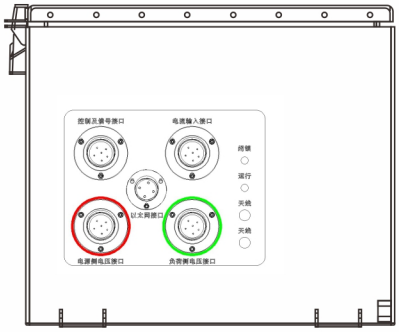
Rear View



Side View



Bottom View



UNIT : mm