CSP5300 SERIES SMART LOAD SWITCH CONTROLLER





OVERVIEW

CSP5300 Distribution Automation Feeder Terminal unit (hereinafter referred to as CSP5300) is a new generation microprocessor-based distribution automation feeder terminal that integrates functions including telemetry, teleindication, telecommand, protection, communication, and feeder automation. It leverages modern advanced digital signal processing technology and high-speed industrial network technology.

Featuring a modular, scalable, and low-power design, the CSP5300 offers high reliability and adaptability. It can be combined with communication systems to form channel-based distribution automation systems for both loop and non-loop networks. Working in coordination with distribution substations and master stations, it enables monitoring of operational status, fault identification, fault isolation, and power supply restoration to non-fault areas.

The CSP5300 is designed to pair with pole-mounted load switches (or circuit breakers) in 10kV distribution networks. Installed along 10kV feeder lines or branch lines, it facilitates protection, measurement, control, and communication functions.

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	/	AC220V
		AC Voltage	/	220V/100V 50Hz
		AC Current	A	1/5

TECHNICAL DATE SHEET

No.	Parameter			Unit	Standard Reference Value
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		/	0-60000
9	Telecommand Output (Choose One)	(1)	Operating Voltage	/	DC24V
			Output Method	/	Relay normally open contact
			Contact Capacity	/	AC250V, 16A; DC30V,16A
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		/	he power supply, input, and output circuits to ground and between circuits withstand a short-duration impulse voltage of 5kV standard lightning wave.

TECHNICAL DATE SHEET

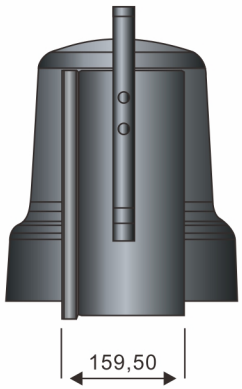
No.	Parameter		Unit	Standard Reference Value
10	Electromagnetic Compatibility (EMC)	Electrostatic Discharge	/	Electrostatic Discharge (ESD) Test Complies with GB-T15153.1-1998: Discharge Method: Contact discharge Severity Level: Level 4 Test Voltage: 8kV
		HF Electrostatic Field	/	HF Electromagnetic 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

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

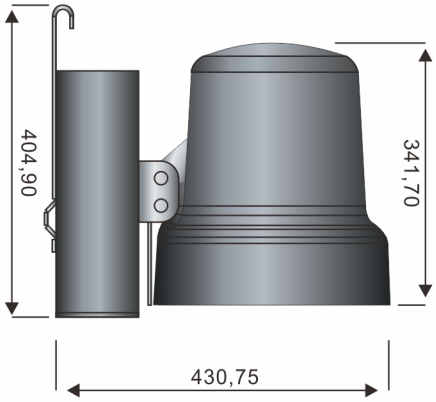
Front View



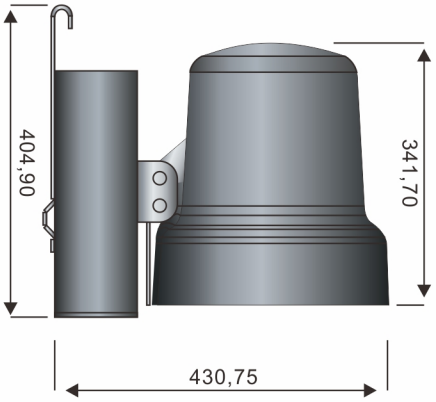
Rear View



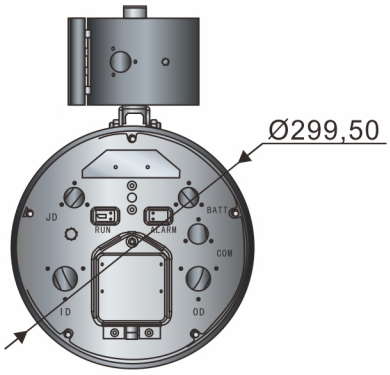
Side View



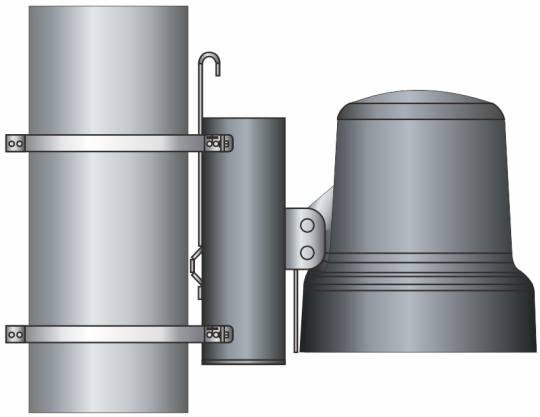
Cutout Dimensions



Bottom View



Installation Diagram



UNIT : mm