LINYANG

DCU

▌INTRODUCTION

LY-DC12 is an advanced data concentrator that is well combined with accurate 3 phase metering functions, applicable to all range of smart metering (AMI) projects as well as distribution transformer monitoring system. Its modular design provides variety of reliable wired & wireless uplink and downlink communication channels addressing a secure and future-proof data transaction platform. LY-DC12 equips with strong processing chipset and a big memory to collect and record various billing data, network parameters, events and tampers from more than 1024 metering nodes and also manage different running scheduled or on-demand tasks such as firmware upgrade, time & date synchronization, auto-registration, load management and data collection receiving from HES. LY-DC12 can be provided with or without LCD that become important when it has metering function too. Deploying an accurate meteorology empowers utilities to monitor the output of distribution transformer, drawing a clear loss analysis and transformer's electrical condition like voltage unbalance, current unbalance, output power, harmonics. LY-DC12 supports DLMS COSEM protocol and IDIS standard to easily and securely provide interoperability over different worldwide metering and system vendors.

▌MAIN FUNCTIONS(DCU)

Auto-Registration	Auto-Hoping	Auto-Routing	Auto-Healing	DLMS COSEM Support
Web Service Support	Dot-Matrix LCD	AES256 Security	Task Scheduling	Tamper Detection
256 MB Memory	Last-Gasp	1024 MP Support	Communication Status Monitoring	Interoperability
Modular Communication	Multi-Utility Data Mgmt.	Inputs & Outputs	Firmware Upgrade	

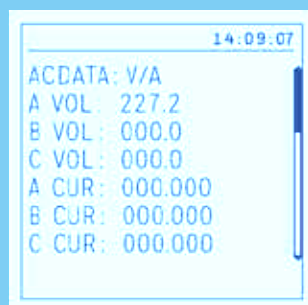## ▌MAIN FUNCTIONS(Metering)

4 Quadrant Measurement	TOU	Load Profile	12 Billing Periods	Demand Monitoring
21 Harmonics	Neutral Measurement	Event and Alarm	PQ Monitoring	

IEC   dlms   IDIS

DCU

DRAWING & WIRING
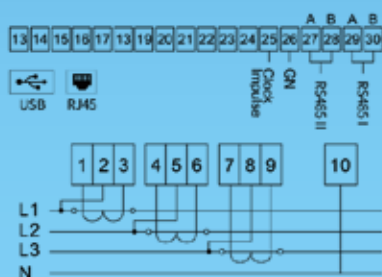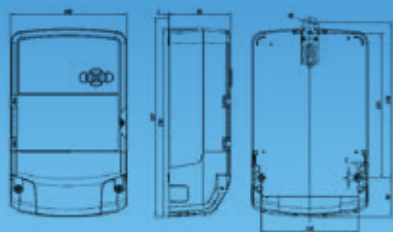
LCD Schema

SPECIFICATION

PARAMETERS		DC12
Electrical	Operating Voltage	3x230/400 V
	Operating Voltage Range	±20%
	Frequency	50/60Hz ±5%
	Power Consumption	Without Communication: <5W , With PLC/Cellular Communication: <9W
	RTC	0.5s/days
	Local Communication	Optical Port, USB, RS232, RS485
	Uplink Communication	GPRS/3G/4G, Ethernet (RJ45)
	Downlink Communication	PLC (G3/PRIME/BPLC) , RF-LoRa , NB-IoT
	Battery	Lithium, 4.8VDC
	LEDs	Communication status, Alarm, Pulse constant, Power on/off
	Surge Immunity	6 kV @ 1,2/50µs
Environmental	Temperature Range	Operation: - 40°C … +70°C , Storage: - 45°C … +85°C
	Humidity	<95%
Mechanical	IP Degree	IP54
	Weight (kg)	<3
	Casing	PC + 10% GF
	Dimension , LWH (mm)	290x180x95
	Terminal	9mm , Brass
Functional	Data Protocol	DLMS COSEM according to IDIS data model specification
	Operating System	Linux
	CPU	32 bits ARM 9
	Supporting MP	≥1024
	Security	AES256 , ECC192
	MTBF	≥ 50000 h
METERING		
Electrical	Accuracy (active and reactive energy)	1 for Active (IEC62053-21) and 2 for Reactive (IEC62053-23)
	Connection types	3P4W
	Nominal Current	1A
	Max Current	6A
	Starting Current (% Ib)	0.4% Ib
Functional	Load profile	Max 6720 entries. 15 Channels, (Configurable interval: 1 to 60min)
	Billing Periods	12 months
	Event log	550
	Measuring Values	kW, KVAR, kWh, kVArh, kVA, V, I, F, PF, Harmonics up to 21th (V, I), THD
	Tariffs	6
	Anti-Tampering	Meter cover open/terminal cover open, Reverse Energy, Missing Phase
Protocols & Standards		IEC 62052-11, IEC62053-21/23 IEC 62056, etc.