ND Metering Solutions
www.ndmeter.co.uk

LEADERS THROUGH INNOVATION

Cube 400
Feature rich and powerful.

Features

- 3Ø energy and power sub-meter
- Standard 96x96 DIN Panel Mount
- Pulse Output, MODBUS & Ethernet comms options
- Measures comprehensive range of energy and power parameters
- 2 pulse outputs
- 2nd pulse output gives kVArh/kVAh through selection link
- Auto-CT rotation OR Factory Set Import/Export Option
- 5/1Amp & mV retrofit CT input options
- Individual Harmonics to the 15th, THD to the 30th Option
- Custom wall mount enclosure option.
- Hours run
- 5 Year Warranty
- CE, UL, C-Tick accredited.

Model Options

Pulse Output Option

kWh & kVArh over 2 Pulse Outputs

Comprehensive range of energy & power parameters on LCD

Optional Individual Harmonics to the 15th, THD to the 30th on LCD

MODBUS RS485 Option

Comprehensive range of energy & power parameters on LCD & MODBUS

Individual Harmonics to the 15th & THD to the 30th

over MODBUS

Ethernet Option

show energy, power, volts, amps, power factor, & digital input/output set-up

parameters

for FTP/HTTP/TFTP, SNMP for directly interfacing with energy management software &

solutions

al Pulse Inputs can measure other utilities eg gas & water etc

outputs

cs to the 15th, THD to the 30th over MODBUS TCP/IP standard

ge of energy & power parameters over IP Ethernet & smaller selection on display

RESET
I V P E
Cmd
Л 1
Л 2
Northern Design Bradford UK
www.ndmeter.co.uk

Pk hold MD
112.2 kVAr
130.5 kVA
3-Phase
66.5 kW

Metering Solutions

The Cube 400 is a metering solution designed to meet the requirements of both energy managers and electrical engineers. It provides a powerful platform to analyse power quality yet allows for an extremely flexible communications output to fit around most requirements. The backlit 3 line display allows for clear display of data in switch-room environments. The Cube 400 is fitted with large rising cage termainals, allowing connection to a wide range of cables, from 0.25mm to 4mm sq.

The Cube 400's communication options are pulse output only, RS485 MODBUS & IP Ethernet offering TCP/IP protocols such as HTTP, FTP, TFTP, SNMP. The various TCP/IP protocols make this the ideal meter to interface directly with energy management software and building control solutions, without the need for data loggers or concentrators. The IP enabled Cube 400 (Cube 400 IP) also has data logging functionality and an additional 3 Pulse inputs plus 2 pulse/alarm outputs. These allow collection of additonal utility data such as incoming electricity meters, water, air, gas and steam. The web pages on the IP Ethernet enabled Cube 400 allow the user to view important instantaneous values and access the setup pages should the need arise to change any of the parameters.

Parameters on Display, MODBUS & TCP/IP *Parameters over MODBUS & TCP/IP only	All Ø	Sum
Volts, L-N & L-L	•	
Amps	•	
Power Factor	•	•
Import kWh, kVah, kVArh		•
*Export kWh, kVAh, kVArh		•
Frequency		
Hours run (on load)		•
* Inductive and capacitive kVArh		•
*Peak Volts, L-N	•	
*Peak Amps	•	
*Neutral Amps		•
*kW, kVA & kVAr	•	•
*kW, kVA & kVAr Demand		•
*Peak kW, kVA, & kVAr Demand		•
*Average Volt & Peak	•	
*Amp, Demand & Peak	•	
*(Option) % THD Volts & Amps Individual Harmonics 2nd - 15th	•	

True RMS measurement of Volts & Amps - and true Power Measurement - to the 30th Harmonic at 50Hz (>25th@60Hz).

Safety: Conforms to EN 61010-1 Overvoltage Category III Accreditation UL, cUL, RCM/C-Tick, CB, CE

Warranty: ND Metering 5 Year Warranty

INPUTS	
System	3 Ø 3 or 4 Wire Unbalanced Load
Voltage U	480/277V
Current I	5Amp, 1 Amp or 0.333V
Measurement Range	Voltage 20% to 120%
	Current 0.2% to 120%
Frequency Range	Fundamental 45 to 65 Hz
-option with comms	Harmonics THD to 30th Harmonic at 50Hz
-option with comms	Individual Harmonics to 15th
Auxiliary Supply options	230V 50/60Hz at 5W max
Pulse Ouput & MODBUS	110V 50/60Hz at 5W max
ACCURACY	
kWh	Class 1 per EN 62053-21 & BS 8431 ANSI C12.20 Class 0.5
kVArh	Class 2 per EN 62053-23 & BS 8431
kW & kVA	Class 0.25 IEC 60688
kVAr	Class 0.5 IEC 60688
Amps & Volts	Class 0.1 IEC 60688
Power Factor	±0.2º
Neutral Current	Class 0.5 IEC 60688
PULSE OUTPUTS	
Function	1 pulse per unit of energy
Scaling	Configurable
Pulse Duration	0.1 second default (other durations configurable)
Type	N/O volt free contact. Optically isolated
Contacts	100mA ac/dc max; 70Vdc/33Vac max; 5W max. load
Isolation	3.5 kV 50Hz 1 minute
Digital Inputs	IP Version - 3 additional
Alarm Outputs	IP Version - X 2
GENERAL	
Operating	-10º to +55ºC
Storage	-25ºC to + 70ºC
Humidity	<75% non-condensing
Environment	IP54
MECHANICAL	
Terminals	Rising Cage. 4mm² (AWG) cable max
Enclosure	DIN 43700, 96x96
Material	Mablex with fire protection to UL94-V-0.Self extinguishing
Dimensions	96x9683.5mm (3.8"x3.8"x3.3"
Weight	250gms (0.55 lbs)