

## Description

The Power Monitoring System is the ideal and flexible add-on for the modular solutions. It allows measuring and monitoring of energy (current, voltage and CB Status).

The system is compact and can be mounted onto rack cabinet. Its modular design ensures flexible and cost-effective application suite to Indonesian Telco Industry or related.

The measuring module detects the current by means of transformers in single phases and forwards a current-proportional signal to the evaluation unit. An additional number of measurement or status for every channel load can be added with the supporting module up to 90 channel.

The monitoring unit collects the measured data (current, voltage values, and CBE status) of input channel and send the alarming indication of voltage and current set value of PDU's power supply feed when it is reached.

These devices are globally made available to the user with integrated desktop app via a Ethernet interface.

## Supporting Module

There is one type module to support the customized design :  
Circuit Breaker Status Module (CBS )

## Applications

PDU add on for -48 VDC application. E.g. :

- Telecommunication (MSC/BSC)
- IT and Data Center
- Industrial, Energy and Equipment

## Features and Benefits

- Compact design
- Ease of recognition with LCD touch screen
- Real-time measurement
- Alarm indication when CB is tripped
- Offline and online monitoring via Ethernet
- Support Modbus TCP and SNMP V2C communication protocol



## Technical data

### Hardware

Voltage Supply Rated	DC 48V (30...60V)
Current Supply Rated	Approx. 800mA
Control System Device	Intel Quark X1000
Communication Protocol	Modbus TCP SNMP V2C
Display	LCD Touch Screen 3.2 inch

### Input

Analog	4
Add on Module / set	8 max.

### Measurement and Alarm (For Dual Main Source)

Voltage	0...60 VDC
Current	0...1000 A *
Status Display	2 LED indicators Green: Normal Red 1: CBE Fault or Trip
Buzzer (With Reset Button)	CBE Fault or Trip
Measurement Accuracy	Voltage : $\pm 1$ V Ampere : $\pm 4$ A **

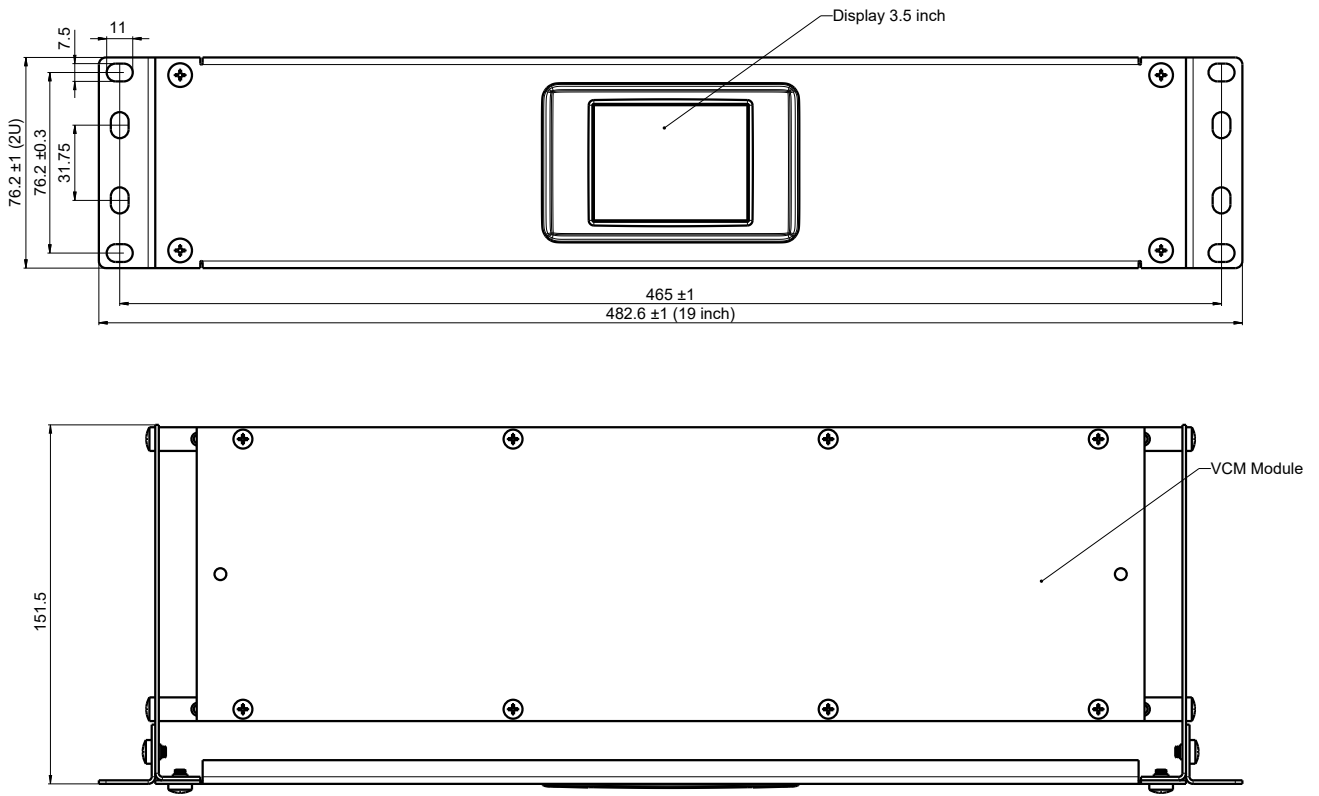
### General

Enclosure	Mild Steel with coating
Color	Light Grey
Dimension (mm)	485 x 88 x 151 mm 2U
Mass	appr. 500 g
Operating temperature	0...+50 °C

\* Shunt Resistor with 60 mV 0-1000 A range are applied for each source

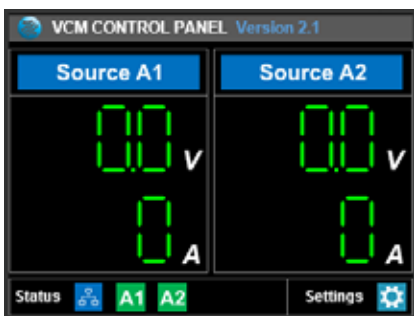
\*\* Measured at 1600 A / 60 mV range of shunt resistor. Smaller range makes the measurement more precision

Dimension

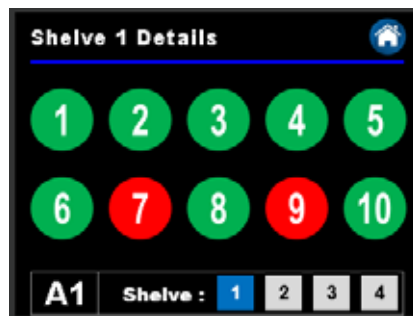


This is a metric design and millimeter dimensions take precedence (mm)

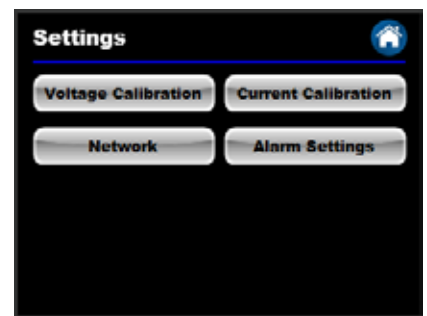
LCD Display



Main Page



CBE Status Details



Settings Page

- Note :
- Measurement display for main source (Volt & Current)
  - Alarm Indicator and CBE / Shelf Fault Notification
  - Detail CBE Trip indicator Display

## CBS Description

The **Circuit Breaker Status (CBS) Module** is the add on module for the VCM 2.1 master unit in monitoring system .It's ideal and flexible add-on for the modular solutions. It allows to deliver the signal of circuit breaker status to the master unit.

The system is compact and can be mounted onto E-T-A PDU's. Its modular design ensures flexible and cost-effective application suite to Indonesian Telco Industry or related.

With the I2C communication reduce the number of wiring in the system which are needed to deliver the signal from every unit / block of distribution to evaluation master unit.

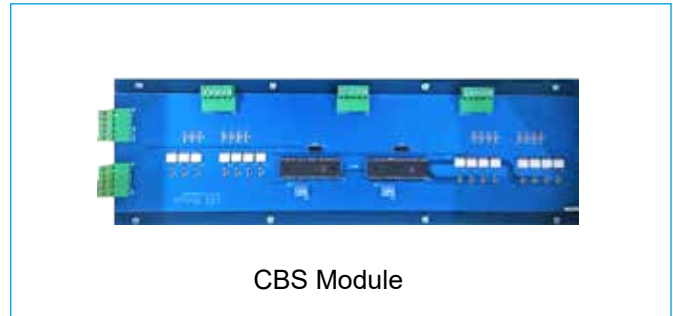
## Applications

Add on module for VCM 2.1 in DC application. E.g. :

- Telecommunication (MSC/BSC)
- IT and Data Center
- Industrial, Energy and Equipment

## Features and Benefits

- Compact design
- Reduce the number of wiring
- Common design. Each PDU shelf can be configured via 4-channel DIP Switch Addressing



CBS Module

## Technical data

### Hardware

Voltage Supply Rated	DC 5 V
Current Supply Rated	Approx. 300mA
Control System Device	Atmel Microcontroller
Communication Protocol	I2C

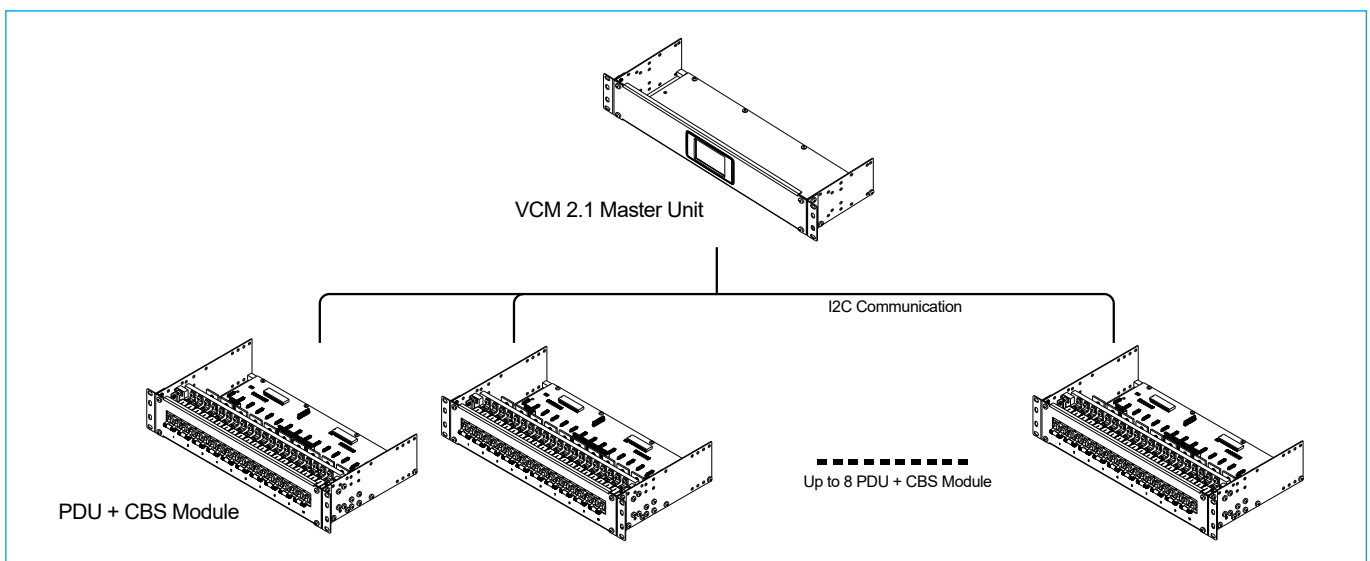
### Input

Digital	10 & 15 channel
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### General

Dimension (mm)	400 x 100 x 20 mm
Mass	appr. 100 g
Operating temperature	0...+50 °C w/o condensation

## Module Integration



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