

Maxchek 400

Maximum demand controller



Field configurable installations



Control relay and alarm



Advance programming



Modbus support

Automatic demand manager

Maxchek 400 is a smart maximum demand controller with standard size 96x96 mm specifically designed for industries to keep a check on their maximum demand. It gives an alarm when demand approaches a preset value and also switches off non-essential loads in a pre-programmed logical sequence. This predictive maximum demand controller (MDC) allows stage wise load restoration to maximize the use of a sanctioned load. Maxchek 400 is most suitable for the demand control of industrial consumers, HT consumers and commercial establishments. It also support ethernet module for communication.



Application

- Commercial and industrial sanctioned demand monitoring & controlling applications
- Control panels for complete plant demand controlling
- Demand management for commerce and industry

Benefits

- Easy interface with external devices through built-in
- Modbus (RS-485)
- Detachable connectors for easy installation
- Three relay and one alarm output
- Suitable for star or delta connections and for low or high-voltage applications
- Alarm output for audible indication.
- Field-configurable CT/PT primary and secondary values
- using push-buttons
- Calibration LED for on-site accuracy check
- Configurable software (ConfigView) for reading of parameters and load survey
- Shift wise demand configuration

Features

- Two modes of programming - preventive mode (only alarm no control), predictive mode (alarm and automatic control)
- Predictive demand control to forewarn, take corrective measures and check maximum demand crossovers
- Multi-level (phase wise and shift wise) priority based automatic load control mechanism to disconnect low priority loads in phased manner
- Configurable demand integration period for sliding and fixed type
- Optimised load disconnection time
- Online load planning by continuously indicating loads that can be added or need to be disconnected (within safe operating limits)
- Check meter with accuracy class 0.2s, 0.5s and 1.0
- Auto and push button display
- An user friendly software to program and monitor
- Control outputs for alarm and trip applications - it provides 3 control and one alarm outputs, in the form of potential free contacts
- Large four-line seven-digit display (9.7 H x 5 W mm) with quadrant identification section and bar graph for instantaneous power-level indication
- Ethernet gateway module for easy integration

Maxchek 400

Enriched software - ConfigView

ConfigView

File View Settings Help

Communication settings... Print...

Max Demand Controller

Basic Advanced

Define System Parameter For Max Demand

Contract Demand 7500 kW

Demand Energy Type Active energy, import, net

Max Demand Controller Mode

☒ Predictive Mode (Alarm and Control O/P)

☐ Preventive Mode (Only Alarm O/P)

Define Shifts and Set Operating Limits For Max Demand Controller

No. of Shift 4

Shift No.	Shift Start Time	Shift End Time	Allowed Demand kW	Alarm Activation Limit (kW)
1	00:00	06:00	7000	6500
2	06:00	12:00	6500	6000
3	12:00	18:00	6800	6500
4	18:00	24:00	7000	6500

Define Trip Loads Connected To Max Demand Controller

Define Load On Circuit For all shifts

No. of Trip Circuit Connected 3

Max Load Connected On Circuit-1 1000 kW

Max Load Connected On Circuit-2 1500 kW

Max Load Connected On Circuit-3 1500 kW

7500 kW

MDC

Alarm 6500 kW

Circuit-1 1000 kW

Circuit-2 1500 kW

Circuit-3 1500 kW

Previous Next Read configuration Apply

Maxchek 400\Maxchek 400 Panel Meter 1\Configuration\Max Demand Controller

ConfigView

File View Settings Help

Communication settings... Print...

Max Demand Controller

Basic Advanced

Define Advance Parameter For Max Demand

Reset relays On DIP crossover

Hysteresis % 5

Alarm Activation Period Averaging Period

Averaging Period ☒ 1 min ☐ 5 min

Define Load On Trip Circuit Shifts Wise

No. of Trip Circuit Connected 3

Shift No.	Load On Trip Circuit 1 (kW)	Load On Trip Circuit 2 (kW)	Load On Trip Circuit 3 (kW)
1	1000	1500	1800
2	1000	1500	1800
3	1000	1500	1800
4	1000	1500	1800

Define Disconnection Sequence Of Trip Circuit In Shifts

Shift No.	Trip Circuit 1	Trip Circuit 2	Trip Circuit 3
1	1	2	3
2	1	2	3
3	1	2	3
4	1	2	3

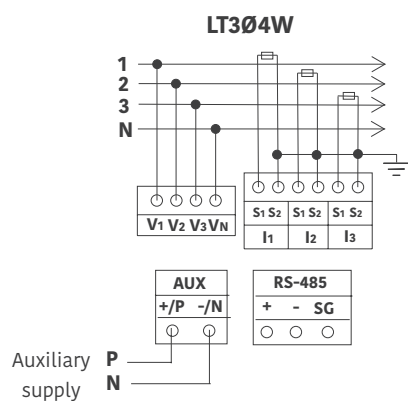
Edit Advance Setting Restore Advance Setting

Previous Next Read configuration Apply

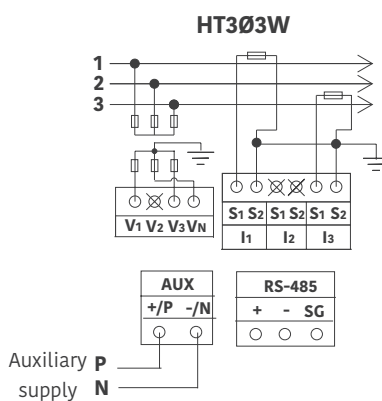
Maxchek 400\Maxchek 400 Panel Meter 1\Configuration\Max Demand Controller



Connection diagram



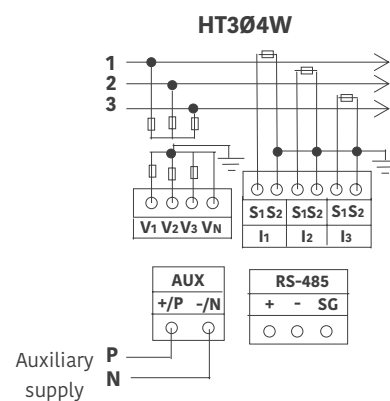
In case of CT/PT operated meter, ensure that meter is connected on secondary side of instrument transformer.



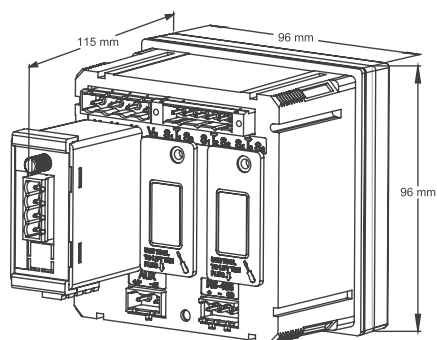
In case of 3Ø3W, VN is replaced by V2 .



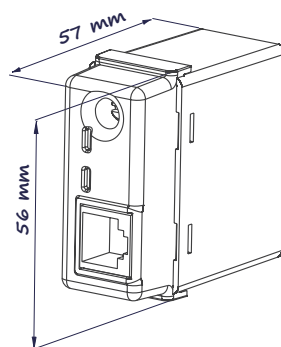
SHORT CTs BEFORE OPENING
CURRENT TERMINALS



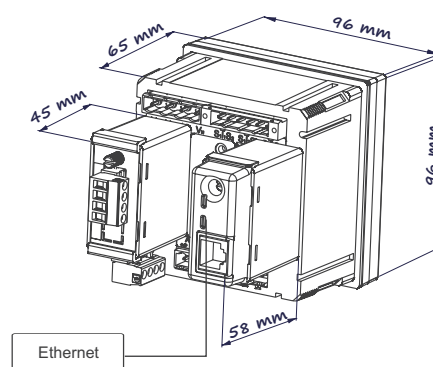
Mechanical dimensions



Meter with control & alarm module



Ethernet module



Meter with control & alarm and Ethernet module



Technical specifications

Electrical

Connection type	Common product for HT3/ HT4/LT application
Wiring configuration	Common product for 3 P-3 W and 3 P-4 W application
Voltage range:	
Measurement voltage range	57.7 V(100V) - 240 V (415 V) AC 3 phase 4 wire (3 phase 3 wire) Tolerance -30% to +20% of Vn Aux power supply range 80 - 300 V AC/DC or 24 - 60 V DC (variant) Available 1-2A and 5-10 A in single variant (field configurable) 50/60Hz with $\pm 5\%$
Current range	0.2s, 0.5s, 1.0
Main frequency	Aux burden: 3.5 VA; 8VA with module connected
Accuracy class	Current ckt burden: 1 A - 0.05VA per phase, 5 A - 0.25 VA per phase
Burden	Voltage ckt burden: 0.15 VA per phase Active Imp (T), Apparent Imp, Active Forwarded, Apparent Forwarded
Energy type	1min or 5min
Averaging period	3 Circuit
Trip circuit	Active for 30 seconds or active for whole averaging period
Alarm activation time	20 x I _{max} for 1 sec., 10 x I _{max} for 3 sec., 7 x I _{max} for 10 sec.
Short time over current	

Compliance

Standards*	IS13779, IS14697, IEC62052-11, IEC62053-23 and IEC62053-22, IEC61010
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Mechanical

Dimensions (WXHxD)	96 x 96 x 115 mm Cut out size 92 x 92 mm
Weight	0.5 kg (approx)
Mechanical enclosure	FRPC
Terminals	Combicon connector
Max conductor size	2.5 mm ²

Environmental

Ingress protection	IP 54 (front fascia); IP20 (at terminals)
Insulation	4 kV RMS 50 Hz
Impulse withstand	6 kV
Temperature	-20 °C to +60 °C (operating) -25 °C to +80 °C (storage)
Humidity	95% non-condensing

Features

Favourite page	On/Off
CT/VT primary	Configurable in field through keypad
Communication	RS485 Modbus half duplex (default) and data will be available in floating point format
Baud rate	from 1200-38400 bps (default 9600 bps)
Load survey	40 days for 6 parameters @ 30 min IP Options for 15 or 60-minute integration period.

Modules

Control & alarm	1 Alarm (230VAC/DC at 100mA) and 3 control output (2A at 230VAC, SPST NO type)
Ethernet	10/100base-T for Modbus over TCP/IP communication