

Configuration Guide for the Ranger PM7000

Recommended

Read through this short guide before
configuring your PM7000.



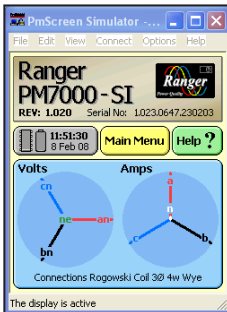
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Shelby Township, MI 48316
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Configuration Guide for the Ranger PM7000

1. Choose the best configuration for your needs

To help you set up your PM7000 as quickly and easily as possible we have pre-loaded **12 recording configurations** (configs) ready for your immediate use.



2. Communicate with your PM7000

Once you have chosen your config, **open communications** between your PC and your PM7000 (with the use of your Bluetooth adaptor) using PMScreen*.

3. Load your chosen configuration

To **load your config** click on 'Main Menu', 'Configure', 'Available Configs'. Choose your config and click on 'Load'.

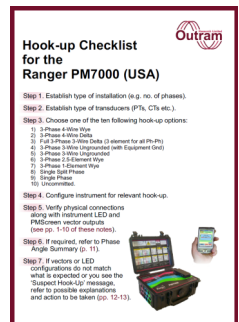
4. Hook-up your logger

Next **hook-up your logger** using the Hook-up Checklist, included in your kit, for reference.

5. Start recording

Once set up, click 'Back' in PMScreens, then 'Start Recording'. Name your session and click '**Start**'.

It's as easy as that!



Remember that if any of these configurations do not match your exact needs, you can either design a new config or tweak any factory config and save it under a new name for future use.

*PMScreen is a program found in the Pronto4w directory, installed from the customer CD.

Configuration Options

Changes that can be made to any configuration, using PMScreen, are:

Physical Hook-up

- Hook-up (10 different physical connection set-ups available)
- Input signals (voltage (PT) or current (CT) transformer ratio)

Timings / Memory Use

- Length of recording (1 sec to as long as you like, using USB stick & 'FIFO')
- Total memory use (1 - 128 MB)
- Memory allocation of the 3 different recording modes
- First In First Out (FIFO/Recycle) mode
- Delayed Start

Data to be Captured

- General Parameter interval (1 sec - 2 hrs)
- Detailed recording method (Adaptive Store/ Point Store)
- Detailed recording channels (functions to be recorded in detail)
- Waveform Capture triggers (events to be captured)
- Wave set retention basis (greatest disturbances or first past threshold)
- Size of captured waveform
- Flicker intervals (short term: 1 - 15 min, long term: 1 - 168 hrs)
- Bandwidth of Harmonics
- Power factor calculation method

Alarms

- High and Low alarms



PM7000 Factory Configuration Summary Table

Configuration Name	Hook-up	Memory Allocation (Standard model)	Max Current	General Parameter Interval	Adaptive Store Recording Channels	Waveforms Captured	Detail
All Configurations are set to record for a 7 day period with FIFO recording mode off.							
3Ø 4w Y Std PQ 8MB 400A 7day	3-Phase 4-Wire Wye	8 MB	400 A	5 mins	20 channels	Transients, Sags	p. 5
All of the following configurations will record all types of waveform disturbances: Transients, Sags, Surges, Notches, Rings, THD and TH current							
1Ø Flkr Pwr 400A 7day	Single Phase	40MB	400 A	2 mins	15 channels		p. 6
3Ø 3w D 2el Full PQ 400A 7day	3-Phase 3-Wire (ungrounded)	40MB	400 A	2 mins	18 channels		p. 7
3Ø 3w D 2el Full PQ 6000A 7day	3-Phase 3-Wire (ungrounded)	40MB	6000 A	2 mins	18 channels		p. 8
3Ø 3w D 3el Full PQ 400A 7day	3-Phase 3-Wire Delta 3el	40MB	400 A	2 mins	26 channels		p. 9
3Ø 3w D 3el Full PQ 6000A 7day	3-Phase 3-Wire Delta 3el	40MB	6000 A	2 mins	26 channels	Transient, Sag, Surge,	p. 10
3Ø 4w D Full PQ 400A 7day	3-Phase 4-Wire Delta	40MB	400 A	2 mins	30 channels	Notch, Ring, THD,	p. 11
3Ø 4w D Full PQ 6000A 7day	3-Phase 4-Wire Delta	40MB	6000 A	2 mins	30 channels	TH current	p. 12
3Ø 4w Y Full PQ 400A 7day	3-Phase 4-Wire Wye	40MB	400 A	2 mins	31 channels		p. 13
3Ø 4w Y Full PQ 6000A 7day	3-Phase 4-Wire Wye	40MB	6000 A	2 mins	31 channels		p. 14
3Ø 2.5el Full PQ 400A 7day	3-Phase 2.5-Element Wye	40MB	400 A	2 mins	18 channels		p. 15
3Ø 2.5el Full PQ 6000A 7day	3-Phase 2.5-Element Wye	40MB	6000 A	2 mins	18 channels		p. 16

3ø 4w Y Std PQ 8MB 400A 7day (PM7000 Default)

Hook Up: 3-Phase 4-Wire Wye

Memory Control

Waveform Capture: 2.00 MB (-S), 4.00 MB (-H), 6.00 MB (-T)
General Parameters: 2.00 MB
Detail Recording: 4.00 MB

Channel Functions

Input Channels

- 1 Van Vac 0 to 600 Vac
- 2 Ia Aac 0 to 400 Aac (Rogowski)
- 3 Vbn Vac 0 to 600 Vac
- 4 Ib Aac 0 to 400 Aac (Rogowski)
- 5 Vcn Vac 0 to 600 Vac
- 6 Ic Aac 0 to 400 Aac (Rogowski)
- 7 Vne Vac 0 to 600 Vac
- 8 In Aac 0 to 400 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Van (Vac)
- 2 RMS of Signal Vbn (Vac)
- 3 RMS of Signal Vcn (Vac)
- 4 RMS of Signal Vne (Vac)
- 5 Calculated RMS of Van with respect to Vbn (Vac)
- 6 Calculated RMS of Vbn with respect to Vcn (Vac)
- 7 Calculated RMS of Van with respect to Vcn (Vac)
- 8 RMS of Signal Ia (Aac)
- 9 RMS of Signal Ib (Aac)
- 10 RMS of Signal Ic (Aac)
- 11 RMS of Signal In (Aac)
- 12 AC Frequency (Hz)
- 13 3 Phase 4 wire Real Power (Inputs 1,2,3,4,5,6) (kW)
- 14 3 Phase 4 wire Reactive Power (Inputs 1,2,3,4,5,6) (kVr)
- 15 3 Phase 4 wire Apparent Power (Inputs 1,2,3,4,5,6) (kVA)
- 16 3 Phase 4 wire Power Factor (Inputs 1,2,3,4,5,6) (PF)
- 17 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 18 Flicker sensation on Van (Pfs)
- 19 Flicker sensation on Vbn (Pfs)
- 20 Flicker sensation on Vcn (Pfs)
- 21-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
Recording Duration: 7 Days
FIFO / Recycle mode: Off
General Interval: 5 Mins
Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
Secondary CT Ratio: None
Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Van 600 Volts = 600.0
- 2 Ia 400 Amps = 400.0
- 3 Vbn 600 Volts = 600.0
- 4 Ib 400 Amps = 400.0
- 5 Vcn 600 Volts = 600.0
- 6 Ic 400 Amps = 400.0
- 7 Vne 600 Volts = 600.0
- 8 In 400 Amps = 400.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
Waves before trip: 3
Waves after trip: 6
Signals to capture: Signal, Complementary,
All voltage, All current
Wave set allocation: Manual

Captured Wave sets

Transient: 50
Sag: 10
Surge capture: Off
Notch capture: Off
Ring capture: Off
THD capture: Off
TH current capture: Off

1ø Flkr Pwr 400A 7day

Hook Up: Single Phase

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
General Parameters: 8.00 MB
Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Van Vac 0 to 600 Vac
- 2 Ia Aac 0 to 400 Aac (Rogowski)
- 3 V2 Vac 0 to 600 Vac
- 4 I2 Aac 0 to 400 Aac (Rogowski)
- 5 V3 Vac 0 to 600 Vac
- 6 I3 Aac 0 to 400 Aac (Rogowski)
- 7 Vne Vac 0 to 600 Vac
- 8 I4 Aac 0 to 400 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Van (Vac)
- 2 RMS of Signal Vne (Vac)
- 3 RMS of Signal Ia (Aac)
- 4 Flicker sensation on Van (Pfs)
- 5 Flicker short term Van 10 mins (Pst)
- 6 Flicker long term Van 2 hrs (Plt)
- 7 Real Power (V.A)= ChVan * ChIa / 1000 (kW)
- 8 Reactive Power (V.A)= Van * Ia / 1000 (kVr)
- 9 Reactive (fundamental) (V.A)= Van * Ia / 1000 (kVr)
- 10 Apparent Power (V.A)= Van * Ia / 1000 (kVA)
- 11 Displacement Power Factor (V,A)= Van, Ia (PF)
- 12 Real Power Factor (V,A)= Van, Ia (PF)
- 13 -90..270° Phase Angle (V,A)= Van, Ia (°)
- 14 Impedance Real (V,A)= Van, Ia (Ω)
- 15 Impedance Reactive (V,A)= Van, Ia (Ω)
- 16-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
Recording Duration: 7 Days
FIFO / Recycle mode: Off
General Interval: 2 Mins
Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
Secondary CT Ratio: None
Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Van 600 Volts = 600.0
- 2 Ia 400 Amps = 400.0
- 3 V2 600 Volts = 600.0
- 4 I2 400 Amps = 400.0
- 5 V3 600 Volts = 600.0
- 6 I3 400 Amps = 400.0
- 7 Vne 600 Volts = 600.0
- 8 I4 400 Amps = 400.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
Waves before trip: 6
Waves after trip: 15
Signals to capture: All voltage, All current
Wave set allocation: Automatic

Captured Wave sets

Transient: 128
Sag: 128
Surge: 38
Notch: 194
Ring: 64
THD: 65
TH current: 65

3ø 3w D 2el Full PQ 400A 7day

Hook Up: 3-Phase 3-Wire (ungrounded)

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
General Parameters: 8.00 MB
Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Vab Vac 0 to 600 Vac
- 2 Ia Aac 0 to 400 Aac (Rogowski)
- 3 V2 Vac 0 to 600 Vac
- 4 I2 Aac 0 to 400 Aac (Rogowski)
- 5 Vcb Vac 0 to 600 Vac
- 6 Ic Aac 0 to 400 Aac (Rogowski)
- 7 V4 Vac 0 to 600 Vac
- 8 I4 Aac 0 to 400 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Vab (Vac)
- 2 RMS of Signal Vcb (Vac)
- 3 Calculated RMS of Vab with respect to Vcb (Vac)
- 4 RMS of Signal Ia (Aac)
- 5 RMS of Signal Ic (Aac)
- 6 Flicker sensation on Vab (Pfs)
- 7 Flicker sensation on Vcb (Pfs)
- 8 Flicker long term Vab 2 hrs (Plt)
- 9 Flicker long term Vcb 2 hrs (Plt)
- 10 Flicker short term Vab 10 mins (Pst)
- 11 Flicker short term Vcb 10 mins (Pst)
- 12 3 Phase 3 wire YD Real Power (Inputs 1,2,3or5,6) (kW)
- 13 3 Phase 3 wire YD Reactive Power (Inputs 1,2,3or5,6) (kVr)
- 14 3 Phase 3 wire YD Reactive (fundamental) (Inputs 1,2,3or5,6) (kVr)
- 15 3 Phase 3 wire YD Apparent Power (Inputs 1,2,3or5,6) (kVA)
- 16 3 Phase 3 wire YD Power Factor (Inputs 1,2,3or5,6) (PF)
- 17 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 18 3 Phase Volts NPS-Volts Phase Angle [Inputs 1,2,3] (°)
- 19-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
Recording Duration: 7 Days
FIFO / Recycle mode: Off
General Interval: 2 Mins
Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
Secondary CT Ratio: None
Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Vab 600 Volts = 600.0
- 2 Ia 400 Amps = 400.0
- 3 V2 600 Volts = 600.0
- 4 I2 400 Amps = 400.0
- 5 Vcb 600 Volts = 600.0
- 6 Ic 400 Amps = 400.0
- 7 V4 600 Volts = 600.0
- 8 I4 400 Amps = 400.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
Waves before trip: 6
Waves after trip: 15
Signals to capture: All voltage, All current
Wave set allocation: Automatic

Captured Wave sets

Transient: 96
Sag: 96
Surge: 29
Notch: 145
Ring: 48
THD: 49
TH current: 49

3ø 3w D 2el Full PQ 6000A 7day

Hook Up: 3-Phase 3-Wire (ungrounded)

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
General Parameters: 8.00 MB
Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Vab Vac 0 to 600 Vac
- 2 Ia Aac 0 to 6000 Aac (Rogowski)
- 3 V2 Vac 0 to 600 Vac
- 4 I2 Aac 0 to 6000 Aac (Rogowski)
- 5 Vcb Vac 0 to 600 Vac
- 6 Ic Aac 0 to 6000 Aac (Rogowski)
- 7 V4 Vac 0 to 600 Vac
- 8 I4 Aac 0 to 6000 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Vab (Vac)
- 2 RMS of Signal Vcb (Vac)
- 3 Calculated RMS of Vab with respect to Vcb (Vac)
- 4 RMS of Signal Ia (Aac)
- 5 RMS of Signal Ic (Aac)
- 6 Flicker sensation on Vab (Pfs)
- 7 Flicker sensation on Vcb (Pfs)
- 8 Flicker long term Vab 2 hrs (Plt)
- 9 Flicker long term Vcb 2 hrs (Plt)
- 10 Flicker short term Vab 10 mins (Pst)
- 11 Flicker short term Vcb 10 mins (Pst)
- 12 3 Phase 3 wire YD Real Power (Inputs 1,2,3or5,6) (kW)
- 13 3 Phase 3 wire YD Reactive Power (Inputs 1,2,3or5,6) (kVr)
- 14 3 Phase 3 wire YD Reactive (fundamental) (Inputs 1,2,3or5,6) (kVr)
- 15 3 Phase 3 wire YD Apparent Power (Inputs 1,2,3or5,6) (kVA)
- 16 3 Phase 3 wire YD Power Factor (Inputs 1,2,3or5,6) (PF)
- 17 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 18 3 Phase Volts NPS-Volts Phase Angle [Inputs 1,2,3] (°)
- 19-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
Recording Duration: 7 Days
FIFO / Recycle mode: Off
General Interval: 2 Mins
Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
Secondary CT Ratio: None
Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Vab 600 Volts = 600.0
- 2 Ia 6000 Amps = 6000.0
- 3 V2 600 Volts = 600.0
- 4 I2 6000 Amps = 6000.0
- 5 Vcb 600 Volts = 600.0
- 6 Ic 6000 Amps = 6000.0
- 7 V4 600 Volts = 600.0
- 8 I4 6000 Amps = 6000.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
Waves before trip: 6
Waves after trip: 15
Signals to capture: All voltage, All current
Wave set allocation: Automatic

Captured Wave sets

Transient: 96
Sag: 96
Surge: 29
Notch: 145
Ring: 48
THD: 49
TH current: 49

3ø 3w D 3el Full PQ 400A 7day

Hook Up: 3-Phase 3-Wire Delta 3el

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
 General Parameters: 8.00 MB
 Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Vab Vac 0 to 600 Vac
- 2 Ia Aac 0 to 400 Aac (Rogowski)
- 3 Vbc Vac 0 to 600 Vac
- 4 Ib Aac 0 to 400 Aac (Rogowski)
- 5 Vca Vac 0 to 600 Vac
- 6 Ic Aac 0 to 400 Aac (Rogowski)
- 7 Vbe Vac 0 to 600 Vac
- 8 I4 Aac 0 to 400 Aac (Rogowski) Math Channels

Detailed (Math) Channels

- 1 RMS of Signal Vab (Vac)
- 2 RMS of Signal Vbc (Vac)
- 3 RMS of Signal Vca (Vac)
- 4 RMS of Signal Vbe (Vac)
- 5 RMS of Signal Ia (Aac)
- 6 RMS of Signal Ib (Aac)
- 7 RMS of Signal Ic (Aac)
- 8 Flicker sensation on Vab (Pfs)
- 9 Flicker sensation on Vbc (Pfs)
- 10 Flicker sensation on Vca (Pfs)
- 11 Flicker long term Vab 2 hrs (Plt)
- 12 Flicker long term Vbc 2 hrs (Plt)
- 13 Flicker long term Vca 2 hrs (Plt)
- 14 Flicker short term Vab 10 mins (Pst)
- 15 Flicker short term Vbc 10 mins (Pst)
- 16 Flicker short term Vca 10 mins (Pst)
- 17 AC Frequency (Hz)
- 18 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 19 3 Phase Volts NPS-Volts Phase Angle [Inputs 1,2,3] (°)
- 20 3 Phase 3 wire YD Real Power (Inputs 1,2,3or5,6) (kW)
- 21 3 Phase 3 wire YD Reactive Power (Inputs 1,2,3or5,6) (kVr)
- 22 3 Phase 3 wire YD Reactive (fundamental) (Inputs 1,2,3or5,6) (kVr)
- 23 3 Phase 3 wire YD Apparent Power (Inputs 1,2,3or5,6) (kVA)
- 24 3 Phase 3 wire YD Power Factor (Inputs 1,2,3or5,6) (PF)
- 25 3 Phase %UnBalance on 3 Voltages (Inputs 1,2,3) (%)
- 26 3 Phase %UnBalance on 3 Currents (Inputs 4,5,6) (%)
- 27-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
 Recording Duration: 7 Days
 FIFO / Recycle mode: Off
 General Interval: 2 Mins
 Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
 Secondary CT Ratio: None
 Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Vab 600 Volts = 600.0
- 2 Ia 400 Amps = 400.0
- 3 Vbc 600 Volts = 600.0
- 4 Ib 400 Amps = 400.0
- 5 Vca 600 Volts = 600.0
- 6 Ic 400 Amps = 400.0
- 7 Vbe 600 Volts = 600.0
- 8 I4 400 Amps = 400.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
 Waves before trip: 6
 Waves after trip: 15
 Signals to capture: All voltage, All current
 Wave set allocation: Automatic

Captured Wave sets

Transient: 55
 Sag: 55
 Surge: 16
 Notch: 83
 Ring: 27
 THD: 28
 TH current: 28

3ø 3w D 3el Full PQ 6000A 7day

Hook Up: 3-Phase 3-Wire Delta 3el

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
 General Parameters: 8.00 MB
 Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Vab Vac 0 to 600 Vac
- 2 Ia Aac 0 to 6000 Aac (Rogowski)
- 3 Vbc Vac 0 to 600 Vac
- 4 Ib Aac 0 to 6000 Aac (Rogowski)
- 5 Vca Vac 0 to 600 Vac
- 6 Ic Aac 0 to 6000 Aac (Rogowski)
- 7 Vbe Vac 0 to 600 Vac
- 8 I4 Aac 0 to 6000 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Vab (Vac)
- 2 RMS of Signal Vbc (Vac)
- 3 RMS of Signal Vca (Vac)
- 4 RMS of Signal Vbe (Vac)
- 5 RMS of Signal Ia (Aac)
- 6 RMS of Signal Ib (Aac)
- 7 RMS of Signal Ic (Aac)
- 8 Flicker sensation on Vab (Pfs)
- 9 Flicker sensation on Vbc (Pfs)
- 10 Flicker sensation on Vca (Pfs)
- 11 Flicker long term Vab 2 hrs (Plt)
- 12 Flicker long term Vbc 2 hrs (Plt)
- 13 Flicker long term Vca 2 hrs (Plt)
- 14 Flicker short term Vab 10 mins (Pst)
- 15 Flicker short term Vbc 10 mins (Pst)
- 16 Flicker short term Vca 10 mins (Pst)
- 17 AC Frequency (Hz)
- 18 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 19 3 Phase Volts NPS-Volts Phase Angle [Inputs 1,2,3] (°)
- 20 3 Phase 3 wire YD Real Power (Inputs 1,2,3or5,6) (kW)
- 21 3 Phase 3 wire YD Reactive Power (Inputs 1,2,3or5,6) (kVr)
- 22 3 Phase 3 wire YD Reactive (fundamental) (Inputs 1,2,3or5,6) (kVr)
- 23 3 Phase 3 wire YD Apparent Power (Inputs 1,2,3or5,6) (kVA)
- 24 3 Phase 3 wire YD Power Factor (Inputs 1,2,3or5,6) (PF)
- 25 3 Phase %UnBalance on 3 Voltages (Inputs 1,2,3) (%)
- 26 3 Phase %UnBalance on 3 Currents (Inputs 4,5,6) (%)
- 27-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
 Recording Duration: 7 Days
 FIFO / Recycle mode: Off
 General Interval: 2 Mins
 Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
 Secondary CT Ratio: None
 Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Vab 600 Volts = 600.0
- 2 Ia 6000 Amps = 6000.0
- 3 Vbc 600 Volts = 600.0
- 4 Ib 6000 Amps = 6000.0
- 5 Vca 600 Volts = 600.0
- 6 Ic 6000 Amps = 6000.0
- 7 Vbe 600 Volts = 600.0
- 8 I4 6000 Amps = 6000.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
 Waves before trip: 6
 Waves after trip: 15
 Signals to capture: All voltage, All current
 Wave set allocation: Automatic

Captured Wave sets

Transient: 55
 Sag: 55
 Surge: 16
 Notch: 83
 Ring: 27
 THD: 28
 TH current: 28

3ø 4w D Full PQ 400A 7day

Hook Up: 3-Phase 4-Wire Delta

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
 General Parameters: 8.00 MB
 Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Van Vac 0 to 600 Vac
- 2 Ia Aac 0 to 400 Aac (Rogowski)
- 3 Vbn Vac 0 to 600 Vac
- 4 Ib Aac 0 to 400 Aac (Rogowski)
- 5 Vcn Vac 0 to 600 Vac
- 6 Ic Aac 0 to 400 Aac (Rogowski)
- 7 Vne Vac 0 to 600 Vac
- 8 In Aac 0 to 400 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Van (Vac)
- 2 RMS of Signal Vbn (Vac)
- 3 RMS of Signal Vcn (Vac)
- 4 RMS of Signal Vne (Vac)
- 5 Calculated RMS of Van with respect to Vbn (Vac)
- 6 Calculated RMS of Vbn with respect to Vcn (Vac)
- 7 Calculated RMS of Van with respect to Vcn (Vac)
- 8 RMS of Signal Ia (Aac)
- 9 RMS of Signal Ib (Aac)
- 10 RMS of Signal Ic (Aac)
- 11 RMS of Signal In (Aac)
- 12 Flicker sensation on Van (Pfs)
- 13 Flicker sensation on Vbn (Pfs)
- 13 Flicker sensation on Vcn (Pfs)
- 15 Flicker long term Van 2 hrs (Plt)
- 16 Flicker long term Vbn 2 hrs (Plt)
- 17 Flicker long term Vcn 2 hrs (Plt)
- 18 Flicker short term Van 10 mins (Pst)
- 19 Flicker short term Vbn 10 mins (Pst)
- 20 Flicker short term Vcn 10 mins (Pst)
- 21 AC Frequency (Hz)
- 22 3 Phase 4 wire Real Power (Inputs 1,2,3,4,5,6) (kW)
- 23 3 Phase 4 wire Reactive Power (Inputs 1,2,3,4,5,6) (kVr)
- 24 3 Phase 4 wire Reactive (fundamental) (Inputs 1,2,3,4,5,6) (kVr)
- 25 3 Phase 4 wire Apparent Power (Inputs 1,2,3,4,5,6) (kVA)
- 26 3 Phase 4 wire Power Factor (Inputs 1,2,3,4,5,6) (PF)
- 27 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 28 3 Phase Volts NPS-Volts Phase Angle [Inputs 1,2,3] (°)
- 29 3 Phase %UnBalance on 3 Currents (Inputs 4,5,6) (%)
- 30 Sum of (I1 + I2 + I3) (Aac)
- 31-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
 Recording Duration: 7 Days
 FIFO / Recycle mode: Off
 General Interval: 2 Mins
 Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
 Secondary CT Ratio: None
 Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Van 600 Volts = 600.0
- 2 Ia 400 Amps = 400.0
- 3 Vbn 600 Volts = 600.0
- 4 Ib 400 Amps = 400.0
- 5 Vcn 600 Volts = 600.0
- 6 Ic 400 Amps = 400.0
- 7 Vne 600 Volts = 600.0
- 8 In 400 Amps = 400.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
 Waves before trip: 6
 Waves after trip: 15
 Signals to capture: All voltage, All current
 Wave set allocation: Automatic

Captured Wave sets

Transient: 48
 Sag: 48
 Surge: 14
 Notch: 73
 Ring: 24
 THD: 24
 TH current: 25

3ø 4w D Full PQ 6000A 7day

Hook Up: 3-Phase 4-Wire Delta

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
 General Parameters: 8.00 MB
 Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Van Vac 0 to 600 Vac
- 2 Ia Aac 0 to 400 Aac (Rogowski)
- 3 Vbn Vac 0 to 600 Vac
- 4 Ib Aac 0 to 400 Aac (Rogowski)
- 5 Vcn Vac 0 to 600 Vac
- 6 Ic Aac 0 to 400 Aac (Rogowski)
- 7 Vne Vac 0 to 600 Vac
- 8 In Aac 0 to 400 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Van (Vac)
- 2 RMS of Signal Vbn (Vac)
- 3 RMS of Signal Vcn (Vac)
- 4 RMS of Signal Vne (Vac)
- 5 Calculated RMS of Van with respect to Vbn (Vac)
- 6 Calculated RMS of Vbn with respect to Vcn (Vac)
- 7 Calculated RMS of Van with respect to Vcn (Vac)
- 8 RMS of Signal Ia (Aac)
- 9 RMS of Signal Ib (Aac)
- 10 RMS of Signal Ic (Aac)
- 11 RMS of Signal In (Aac)
- 12 Flicker sensation on Van (Pfs)
- 13 Flicker sensation on Vbn (Pfs)
- 13 Flicker sensation on Vcn (Pfs)
- 15 Flicker long term Van 2 hrs (Plt)
- 16 Flicker long term Vbn 2 hrs (Plt)
- 17 Flicker long term Vcn 2 hrs (Plt)
- 18 Flicker short term Van 10 mins (Pst)
- 19 Flicker short term Vbn 10 mins (Pst)
- 20 Flicker short term Vcn 10 mins (Pst)
- 21 AC Frequency (Hz)
- 22 3 Phase 4 wire Real Power (Inputs 1,2,3,4,5,6) (kW)
- 23 3 Phase 4 wire Reactive Power (Inputs 1,2,3,4,5,6) (kVr)
- 24 3 Phase 4 wire Reactive (fundamental) (Inputs 1,2,3,4,5,6) (kVr)
- 25 3 Phase 4 wire Apparent Power (Inputs 1,2,3,4,5,6) (kVA)
- 26 3 Phase 4 wire Power Factor (Inputs 1,2,3,4,5,6) (PF)
- 27 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 28 3 Phase Volts NPS-Volts Phase Angle [Inputs 1,2,3] (°)
- 29 3 Phase %UnBalance on 3 Currents (Inputs 4,5,6) (%)
- 30 Sum of (I1 + I2 + I3) (Aac)
- 31-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
 Recording Duration: 7 Days
 FIFO / Recycle mode: Off
 General Interval: 2 Mins
 Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
 Secondary CT Ratio: None
 Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Van 600 Volts = 600.0
- 2 Ia 6000 Amps = 6000.0
- 3 Vbn 600 Volts = 600.0
- 4 Ib 6000 Amps = 6000.0
- 5 Vcn 600 Volts = 600.0
- 6 Ic 6000 Amps = 6000.0
- 7 Vne 600 Volts = 600.0
- 8 In 6000 Amps = 6000.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
 Waves before trip: 6
 Waves after trip: 15
 Signals to capture: All voltage, All current
 Wave set allocation: Automatic

Captured Wave sets

Transient: 48
 Sag: 48
 Surge: 14
 Notch: 73
 Ring: 24
 THD: 24
 TH current: 25

3ø 4w Y Full PQ 400A 7day

Hook Up: 3-Phase 4-Wire Wye

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
 General Parameters: 8.00 MB
 Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Van Vac 0 to 600 Vac
- 2 Ia Aac 0 to 400 Aac (Rogowski)
- 3 Vbn Vac 0 to 600 Vac
- 4 Ib Aac 0 to 400 Aac (Rogowski)
- 5 Vcn Vac 0 to 600 Vac
- 6 Ic Aac 0 to 400 Aac (Rogowski)
- 7 Vne Vac 0 to 600 Vac
- 8 In Aac 0 to 400 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Van (Vac)
- 2 RMS of Signal Vbn (Vac)
- 3 RMS of Signal Vcn (Vac)
- 4 RMS of Signal Vne (Vac)
- 5 Calculated RMS of Van with respect to Vbn (Vac)
- 6 Calculated RMS of Vbn with respect to Vcn (Vac)
- 7 Calculated RMS of Van with respect to Vcn (Vac)
- 8 RMS of Signal Ia (Aac)
- 9 RMS of Signal Ib (Aac)
- 10 RMS of Signal Ic (Aac)
- 11 RMS of Signal In (Aac)
- 12 Flicker sensation on Van (Pfs)
- 13 Flicker sensation on Vbn (Pfs)
- 14 Flicker sensation on Vcn (Pfs)
- 15 Flicker long term Van 2 hrs (Plt)
- 16 Flicker long term Vbn 2 hrs (Plt)
- 17 Flicker long term Vcn 2 hrs (Plt)
- 18 Flicker short term Van 10 mins (Pst)
- 19 Flicker short term Vbn 10 mins (Pst)
- 20 Flicker short term Vcn 10 mins (Pst)
- 21 AC Frequency (Hz)
- 22 3 Phase 4 wire Real Power (Inputs 1,2,3,4,5,6) (kW)
- 23 3 Phase 4 wire Reactive Power (Inputs 1,2,3,4,5,6) (kVr)
- 24 3 Phase 4 wire Reactive (fundamental) (Inputs 1,2,3,4,5,6) (kVr)
- 25 3 Phase 4 wire Apparent Power (Inputs 1,2,3,4,5,6) (kVA)
- 26 3 Phase 4 wire Power Factor (Inputs 1,2,3,4,5,6) (PF)
- 27 3 Phase %UnBalance on 3 Voltages (Inputs 1,2,3) (%)
- 28 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 29 3 Phase Volts NPS-Volts Phase Angle [Inputs 1,2,3] (°)
- 30 3 Phase %UnBalance on 3 Currents (Inputs 4,5,6) (%)
- 31 Sum of (I1 + I2 + I3) (Aac)
- 32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
 Recording Duration: 7 Days
 FIFO / Recycle mode: Off
 General Interval: 2 Mins
 Flicker Intervals: 10 Mins and 2 Hours

Input Transformers

Secondary PT Ratio: None
 Secondary CT Ratio: None
 Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Van 600 Volts = 600.0
- 2 Ia 400 Amps = 400.0
- 3 Vbn 600 Volts = 600.0
- 4 Ib 400 Amps = 400.0
- 5 Vcn 600 Volts = 600.0
- 6 Ic 400 Amps = 400.0
- 7 Vne 600 Volts = 600.0
- 8 In 400 Amps = 400.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
 Waves before trip: 6
 Waves after trip: 15
 Signals to capture: All voltage, All current
 Wave set allocation: Automatic

Captured Wave sets

Transient: 48
 Sag: 48
 Surge: 14
 Notch: 73
 Ring: 24
 THD: 24
 TH current: 25

3ø 4w Y Full PQ 6000A 7day

Hook Up: 3-Phase 4-Wire Wye

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
 General Parameters: 8.00 MB
 Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Van Vac 0 to 600 Vac
- 2 Ia Aac 0 to 6000 Aac (Rogowski)
- 3 Vbn Vac 0 to 600 Vac
- 4 Ib Aac 0 to 6000 Aac (Rogowski)
- 5 Vcn Vac 0 to 600 Vac
- 6 Ic Aac 0 to 6000 Aac (Rogowski)
- 7 Vne Vac 0 to 600 Vac
- 8 In Aac 0 to 6000 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Van (Vac)
- 2 RMS of Signal Vbn (Vac)
- 3 RMS of Signal Vcn (Vac)
- 4 RMS of Signal Vne (Vac)
- 5 Calculated RMS of Van with respect to Vbn (Vac)
- 6 Calculated RMS of Vbn with respect to Vcn (Vac)
- 7 Calculated RMS of Van with respect to Vcn (Vac)
- 8 RMS of Signal Ia (Aac)
- 9 RMS of Signal Ib (Aac)
- 10 RMS of Signal Ic (Aac)
- 11 RMS of Signal In (Aac)
- 12 Flicker sensation on Van (Pfs)
- 13 Flicker sensation on Vbn (Pfs)
- 14 Flicker sensation on Vcn (Pfs)
- 15 Flicker long term Van 2 hrs (Plt)
- 16 Flicker long term Vbn 2 hrs (Plt)
- 17 Flicker long term Vcn 2 hrs (Plt)
- 18 Flicker short term Van 10 mins (Pst)
- 19 Flicker short term Vbn 10 mins (Pst)
- 20 Flicker short term Vcn 10 mins (Pst)
- 21 AC Frequency (Hz)
- 22 3 Phase 4 wire Real Power (Inputs 1,2,3,4,5,6) (kW)
- 23 3 Phase 4 wire Reactive Power (Inputs 1,2,3,4,5,6) (kVr)
- 24 3 Phase 4 wire Reactive (fundamental) (Inputs 1,2,3,4,5,6) (kVr)
- 25 3 Phase 4 wire Apparent Power (Inputs 1,2,3,4,5,6) (kVA)
- 26 3 Phase 4 wire Power Factor (Inputs 1,2,3,4,5,6) (PF)
- 27 3 Phase %UnBalance on 3 Voltages (Inputs 1,2,3) (%)
- 28 3 Phase Volts NPS-PPS ratio (Inputs 1,2,3) (%)
- 29 3 Phase Volts NPS-Volts Phase Angle [Inputs 1,2,3] (°)
- 30 3 Phase %UnBalance on 3 Currents (Inputs 4,5,6) (%)
- 31 Sum of (I1 + I2 + I3) (Aac)
- 32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
 Recording Duration: 7 Days
 FIFO / Recycle mode: Off
 General Interval: 2 Mins
 Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
 Secondary CT Ratio: None
 Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Van 600 Volts = 600.0
- 2 Ia 6000 Amps = 6000.0
- 3 Vbn 600 Volts = 600.0
- 4 Ib 6000 Amps = 6000.0
- 5 Vcn 600 Volts = 600.0
- 6 Ic 6000 Amps = 6000.0
- 7 Vne 600 Volts = 600.0
- 8 In 6000 Amps = 6000.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
 Waves before trip: 6
 Waves after trip: 15
 Signals to capture: All voltage, All current
 Wave set allocation: Automatic

Captured Wave sets

Transient: 48
 Sag: 48
 Surge: 14
 Notch: 73
 Ring: 24
 THD: 24
 TH current: 25

3ø 2.5el Full PQ 400A 7day

Hook Up: 3-Phase 2.5-Element Wye

Memory Control

Waveform Capture: 16.00 MB (-S), 32.00 MB (-H), 48.00 MB (-T)
 General Parameters: 8.00 MB
 Detail Recording: 16.00 MB

Channel Functions

Input Channels

- 1 Van Vac 0 to 600 Vac
- 2 Ia Aac 0 to 400 Aac (Rogowski)
- 3 V2 Vac 0 to 600 Vac
- 4 Ib Aac 0 to 400 Aac (Rogowski)
- 5 Vcn Vac 0 to 600 Vac
- 6 Ic Aac 0 to 400 Aac (Rogowski)
- 7 Vne Vac 0 to 600 Vac
- 8 In Aac 0 to 400 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Van (Vac)
- 2 RMS of Signal Vcn (Vac)
- 3 Calculated RMS of Van with respect to Vcn (Vac)
- 4 RMS of Signal Ia (Aac)
- 5 RMS of Signal Ic (Aac)
- 6 Flicker sensation on Van (Pfs)
- 7 Flicker sensation on Vcn (Pfs)
- 8 Flicker long term Van 2 hrs (Plt)
- 9 Flicker long term Vcn 2 hrs (Plt)
- 10 Flicker short term Van 10 mins (Pst)
- 11 Flicker short term Vcn 10 mins (Pst)
- 12 3 Phase %UnBalance on 3 Currents (Inputs 4,5,6) (%)
- 13 Sum of (I1 + I2 + I3) (Aac)
- 14 3 Phase 2.5 Element Real Power (Inputs 1,2,3,4,6) (kW)
- 15 3 Phase 2.5 Element Reactive Power (Inputs 1,2,3,4,6) (kVr)
- 16 3 Phase 2.5 Element Reactive (fundamental) (Inputs 1,2,3,4,6) (kVr)
- 17 3 Phase 2.5 Element Apparent Power (Inputs 1,2,3,4,6) (kVA)
- 18 3 Phase 2.5 Element Power Factor (Inputs 1,2,3,4,6) (PF)
- 19-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
 Recording Duration: 7 Days
 FIFO / Recycle mode: Off
 General Interval: 2 Mins
 Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
 Secondary CT Ratio: None
 Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Van 600 Volts = 600.0
- 2 Ia 400 Amps = 400.0
- 3 V2 600 Volts = 600.0
- 4 Ib 400 Amps = 400.0
- 5 Vcn 600 Volts = 600.0
- 6 Ic 400 Amps = 400.0
- 7 Vne 600 Volts = 600.0
- 8 In 400 Amps = 400.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
 Waves before trip: 6
 Waves after trip: 15
 Signals to capture: All voltage, All current
 Wave set allocation: Automatic

Captured Wave sets

Transient: 55
 Sag: 55
 Surge: 16
 Notch: 83
 Ring: 27
 THD: 28
 TH current: 28

3ø 2.5el Full PQ 6000A 7day

Hook Up: 3-Phase 2.5-Element Wye

Memory Control

Waveform Capture: 16 MB (-S), 32 MB (-H), 48 MB (-T)
General Parameters: 8 MB
Detail Recording: 16 MB

Channel Functions

Input Channels

- 1 Van Vac 0 to 600 Vac
- 2 Ia Aac 0 to 6000 Aac (Rogowski)
- 3 V2 Vac 0 to 600 Vac
- 4 Ib Aac 0 to 6000 Aac (Rogowski)
- 5 Vcn Vac 0 to 600 Vac
- 6 Ic Aac 0 to 6000 Aac (Rogowski)
- 7 Vne Vac 0 to 600 Vac
- 8 In Aac 0 to 6000 Aac (Rogowski)

Detailed (Math) Channels

- 1 RMS of Signal Van (Vac)
- 2 RMS of Signal Vcn (Vac)
- 3 Calculated RMS of Van with respect to Vcn (Vac)
- 4 RMS of Signal Ia (Aac)
- 5 RMS of Signal Ic (Aac)
- 6 Flicker sensation on Van (Pfs)
- 7 Flicker sensation on Vcn (Pfs)
- 8 Flicker long term Van 2 hrs (Plt)
- 9 Flicker long term Vcn 2 hrs (Plt)
- 10 Flicker short term Van 10 mins (Pst)
- 11 Flicker short term Vcn 10 mins (Pst)
- 12 3 Phase %UnBalance on 3 Currents (Inputs 4,5,6) (%)
- 13 Sum of (I1 + I2 + I3) (Aac)
- 14 3 Phase 2.5 Element Real Power (Inputs 1,2,3,4,6) (kW)
- 15 3 Phase 2.5 Element Reactive Power (Inputs 1,2,3,4,6) (kVr)
- 16 3 Phase 2.5 Element Reactive (fundamental) (Inputs 1,2,3,4,6) (kVr)
- 17 3 Phase 2.5 Element Apparent Power (Inputs 1,2,3,4,6) (kVA)
- 18 3 Phase 2.5 Element Power Factor (Inputs 1,2,3,4,6) (PF)
- 19-32 Unspecified

General Setup Values

Storage Mode: Adaptive Store
Recording Duration: 7 Days
FIFO / Recycle mode: Off
General Interval: 2 Mins
Flicker Intervals: 10 Mins and 2 Hrs

Input Transformers

Secondary PT Ratio: None
Secondary CT Ratio: None
Primary Sensor Ratio: Fixed (Rogowski)

Input Calibration

Setup Values

- 1 Van 600 Volts = 600.0
- 2 Ia 400 Amps = 400.0
- 3 V2 600 Volts = 600.0
- 4 Ib 400 Amps = 400.0
- 5 Vcn 600 Volts = 600.0
- 6 Ic 400 Amps = 400.0
- 7 Vne 600 Volts = 600.0
- 8 In 400 Amps = 400.0

Alarms: None

Waveform Capture: Enabled

Wave set retention: Greatest Disturbances
Waves before trip: 6
Waves after trip: 15
Signals to capture: All voltage, All current
Wave set allocation: Automatic

Captured Wave sets

Transient: 55
Sag: 55
Surge: 16
Notch: 83
Ring: 27
THD: 28
TH current: 28