Easergy P3

Complete Range of Protection Relays for MV Applications

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Easergy Range of Protection Relays

Offer Range

Application Complexity

Consistent digital experience across the range

Retrofit Solutions
Vamp 125
Ecofit 50/51

Low range
Single Function &
CT Powered
Easergy P1

Entry range
Secondary s/s
Easergy P3

2019

Mid range
Secondary and Primary s/s
Easergy P5

2020

High End range
Primary / transmission s/s
Easergy P7

2022

Based on more than 100 years of experience in protection (MiCOM, Sepam, and Vamp Relays)

Easergy P3 Introduction

Easergy P3 Flexible and Scalable Architecture

2 platforms to cover all medium voltage applications

Easergy P3Ux0
Standard applications

Simple solution for standard applications

I & U

Easergy P3x3x
Advanced applications

Performing solution for demanding applications

I & U

Arc Flash / Differential
> 1MW

P3U10/20/30 = Universal protection

- Feeder
- Transformer
- Motor
- Generator
- Voltage, Frequency
- Capacitor

P3**F**30 = **F**eeder & Transformer
P3**M**30 = **M**otor
P3**G**30 = **G**enerator
P3**L**30 = **L**ine differential & Distance
P3**T**32 = **T**ransformer differential
P3**M**32 = **M**otor differential
P3**G**32 = **G**enerator differential

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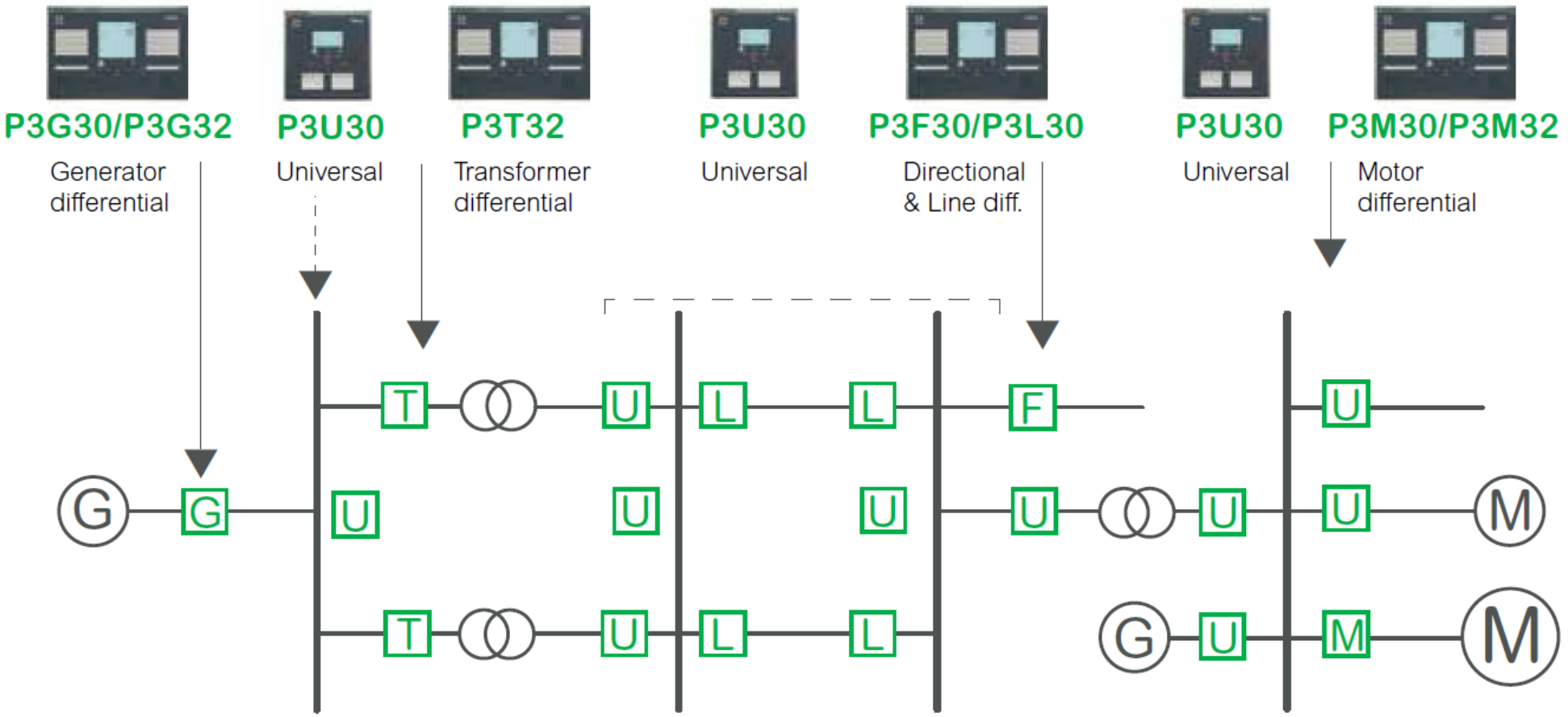
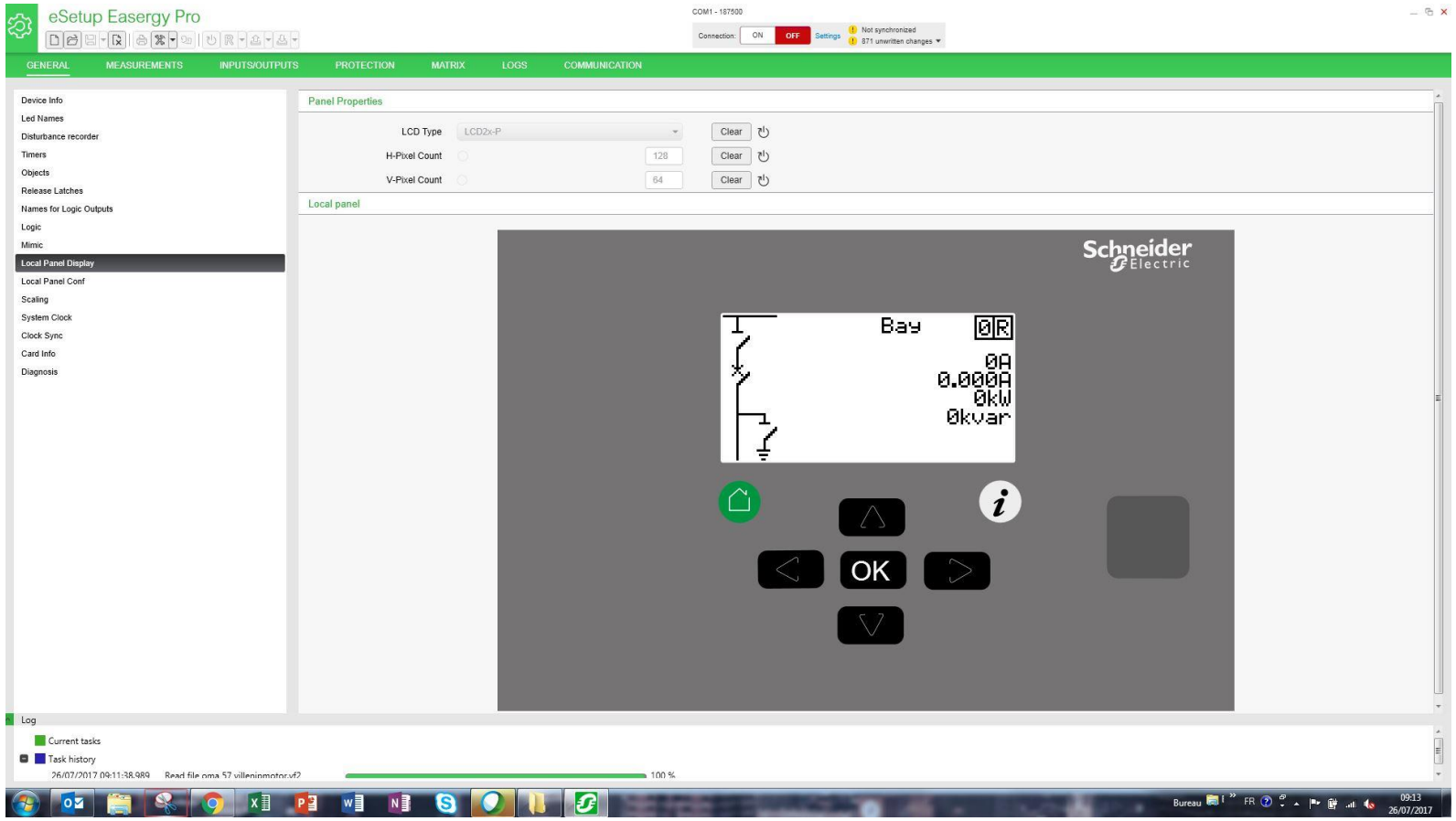
Example of installation protected by Easergy P3



eSetup Easergy Pro

Easergy P3's intuitive setting software



Benefits

Simplicity and ease of use

- Light installation on computer
- On-line & off-line access
- Virtual simulation test
- Intuitive mimic configuration
- Programmable logics
- Measurements with clear and explicit phasor diagram
- Standard USB connection

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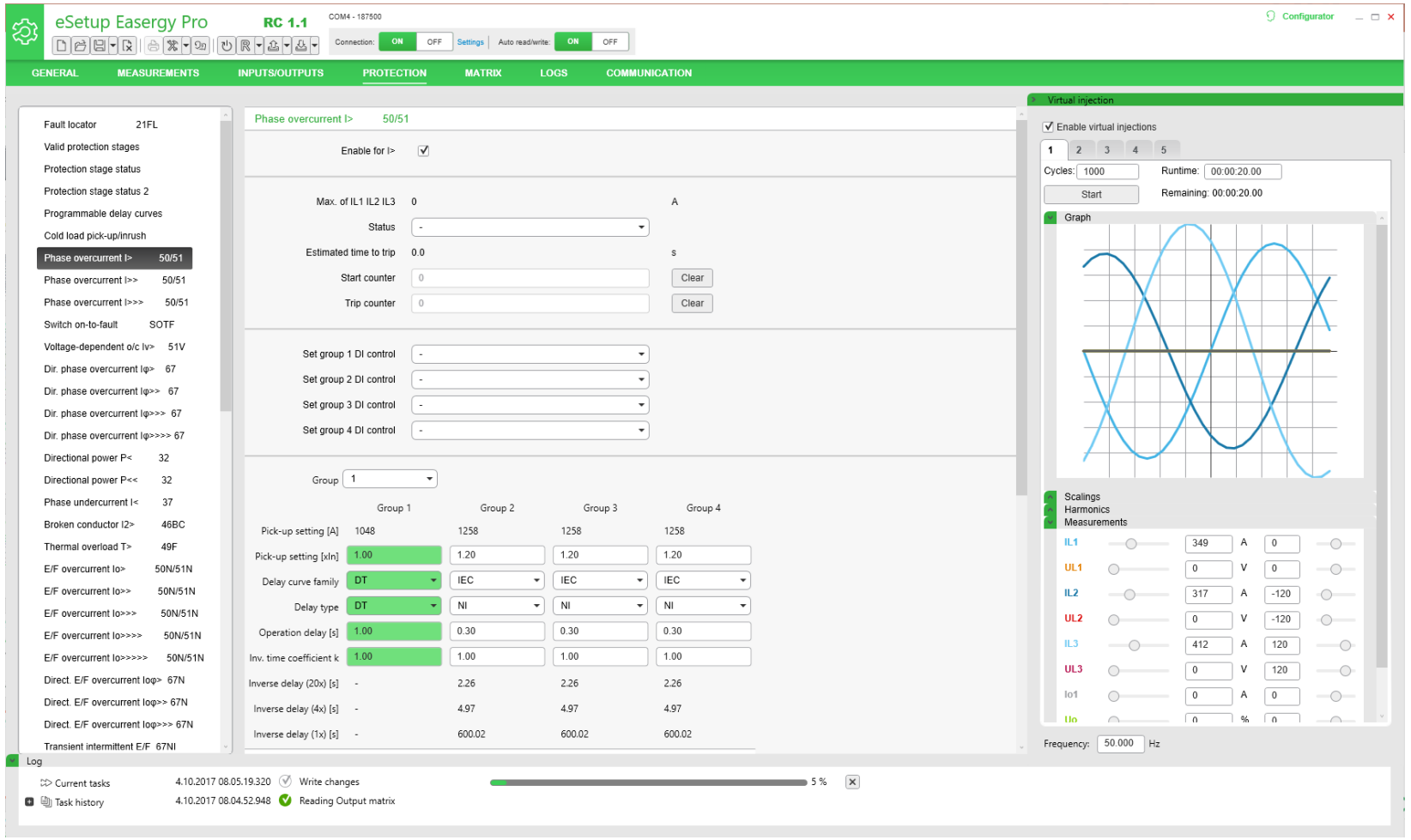
eSetup Easergy Pro – virtual simulation test

Easergy P3's intuitive setting software



Benefits

Simplicity and ease of use

- Virtual simulation test
- Provides the possibility to test the configuration and settings without connecting a primary injection device
- Speeds up the engineering and commissioning phase

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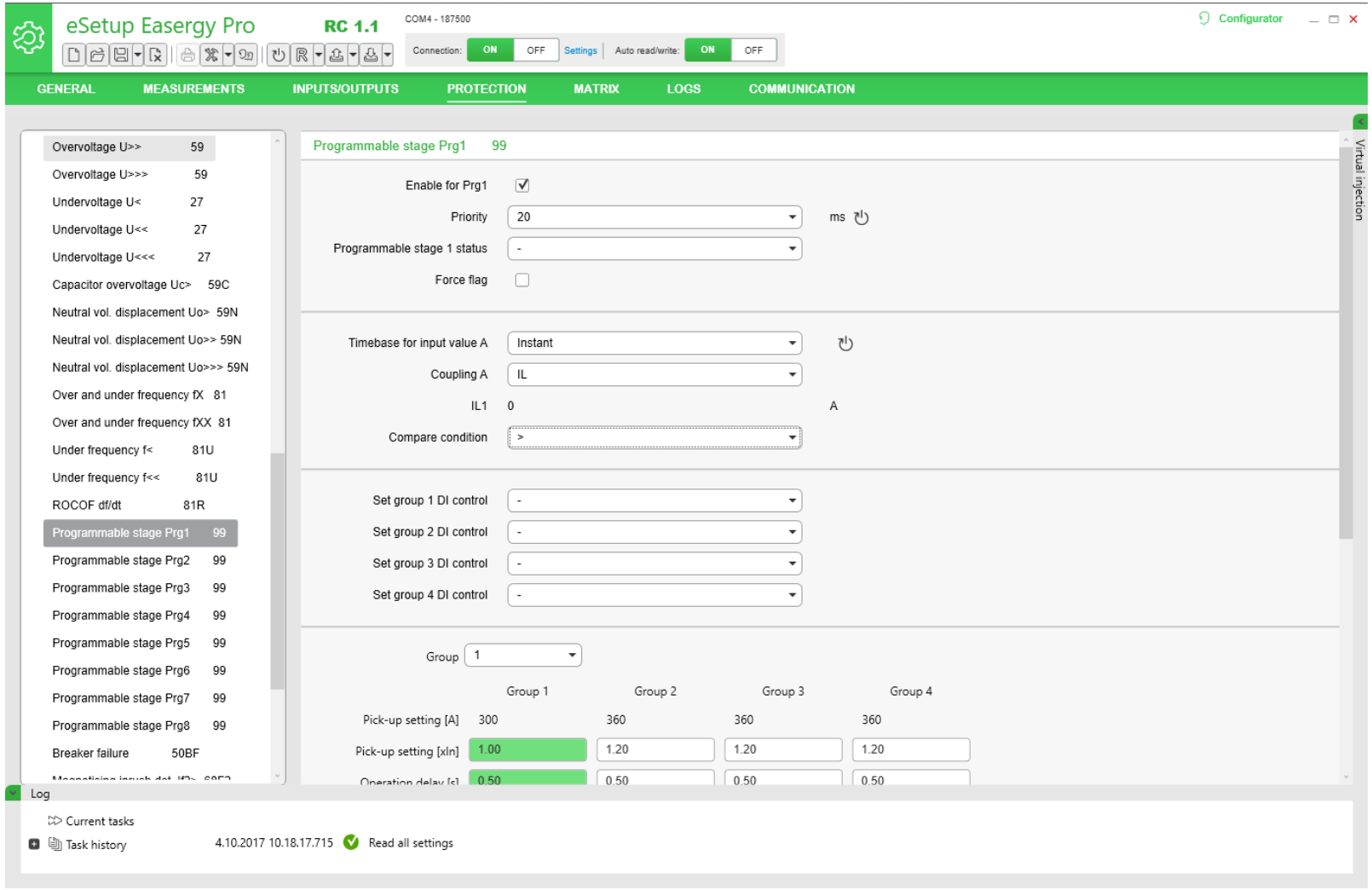
Easy and flexible programmable stages

Easergy P3

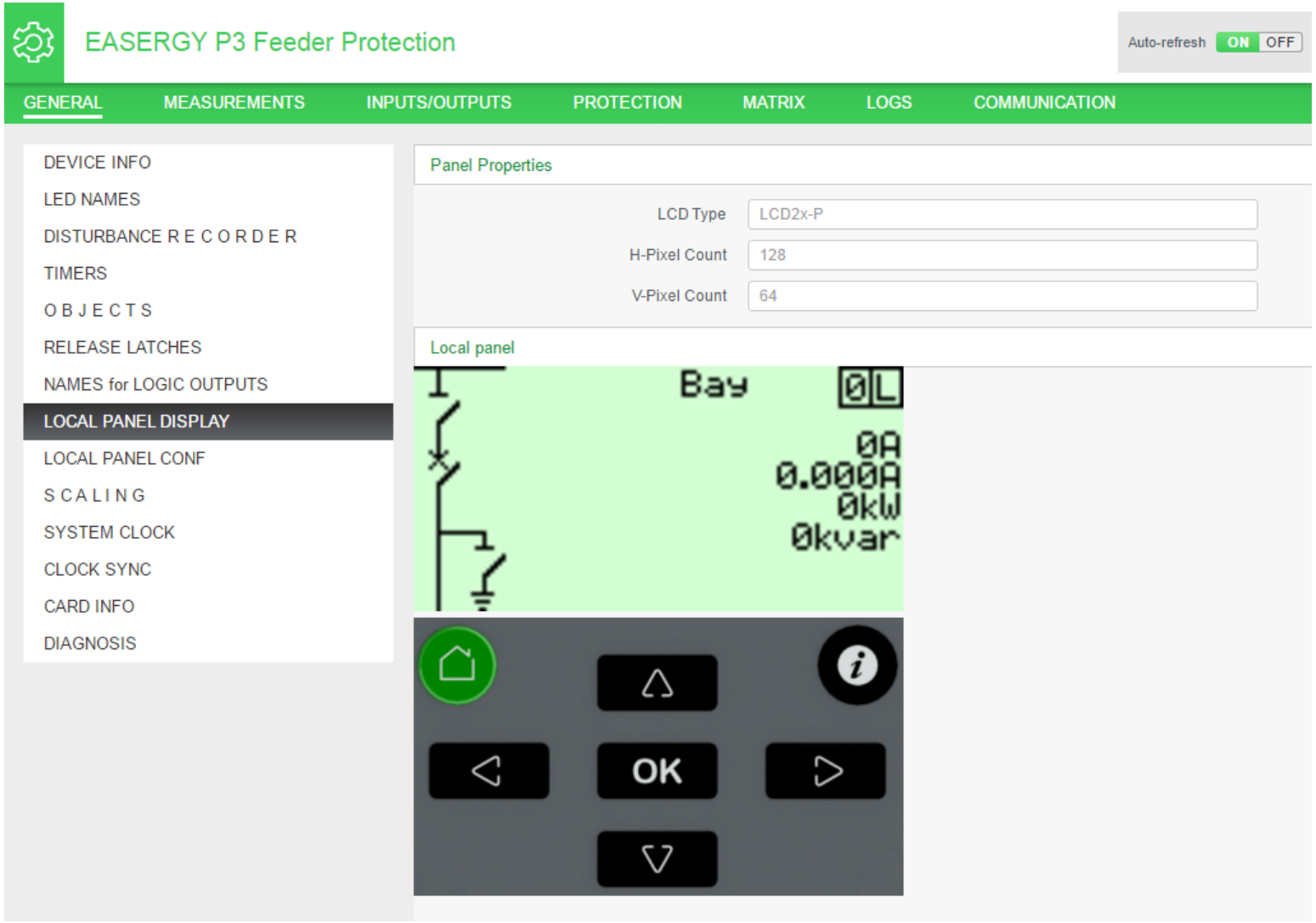


Benefits

- Increase the number of protection stages
- Make new/advanced protection functions
- Make advanced logic based on analog values

Easergy P3 WebHMI

New embedded web-pages for easier operations



Benefits

Consistent interface with Easergy Pro

- Secured local access to Easergy P3
- Active settings modification
- Direct CB control
- Easy access to alarms and logs
- Easy access to measurements and wave form records

Try our P3 relay from 6000km away, using your browser!

- 10.158.45.39 P3U
- 10.158.45.38 G32
- 10.158.45.37 T32
- Username: conf
- Password: 2

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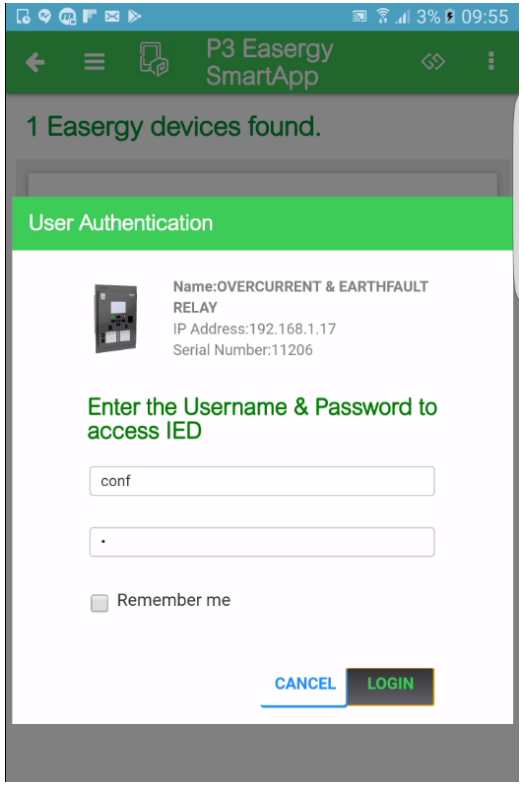
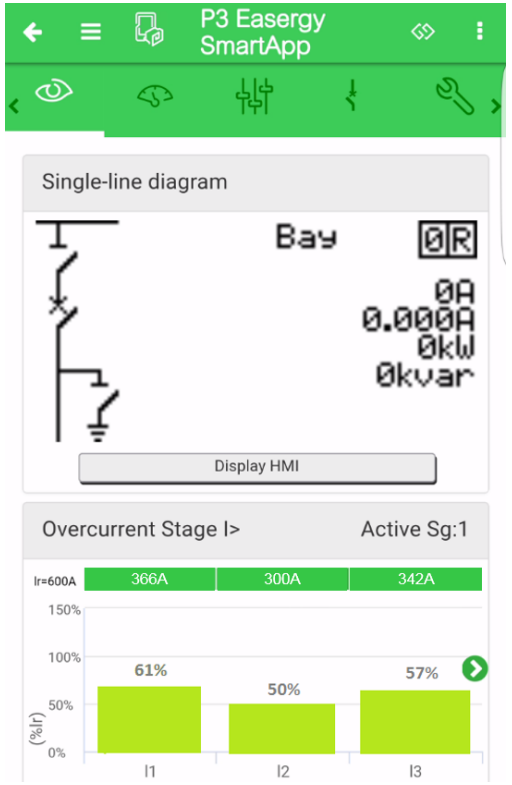
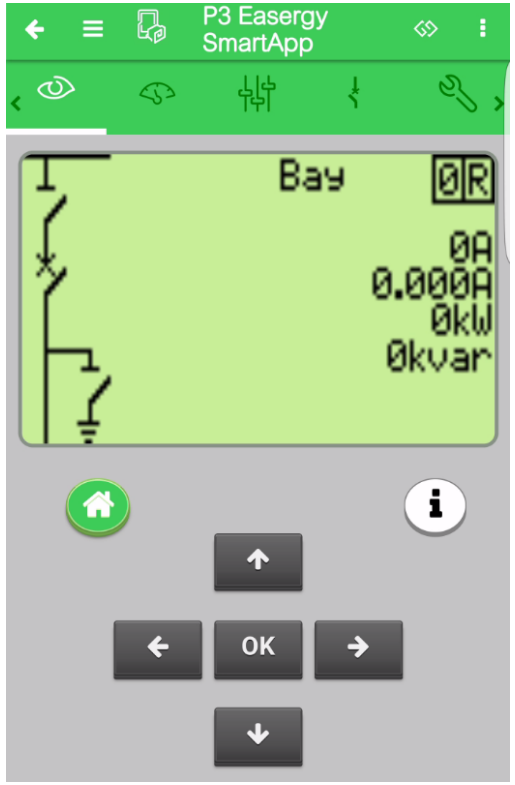
Easergy SmartApp

The first smartphone & tablet apps of the market for a MV protection relay







Benefits

Intuitive inteface for faster operations

- Active settings modification
- Easy access to measurments and wave form records
- Alarm historical
- Direct CB control
- Direct access to documentation via the SafeRepository

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Striving for sustainability for our customers and the planet

Green Premium™ Product

Awards and recognitions

CDP DRIVING SUSTAINABLE ECONOMIES

CDP A LIST 2020 CLIMATE

ROBECOSAM Sustainability Award Gold Class 2014

Enjeux Les Echos

- ☑ RoHS, PEP, EoLI, Reach
- ☑ Compliant with the latest directives
- ☑ Easy access to information

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Discover Easergy P3 Features

Easergy P3 key characteristics

- Protection — **1 platform** for more than 35 protection functions
  8 programable stages (ANSI 99)
- Control — Up to **6 objects** with **mimic**
  Matrix and logic equations
- Digital tool — 3-phase voltage/current injection simulator
  Embedded Web Pages HMI
  Remote connection by Apps
  QR code to get access to Relays information

- Communication protocols — IEC61850 Ed.1 & Ed.2
  DNP3.0, DNP3oE
  Modbus RTU, Modbus TCP
  IEC60870-5-101 / 103
  Ethernet/IP
  DeviceNet, Profibus, SPA-bus
  Redundancy RSTP, PRP

- CT/VT inputs — 4/5CT + 1/4VT (compatible with residual current sensor CSH)
  Detachable connector (easy installation) + Automatic CT shortening
- Digital I/Os — P3Ux : up to 16I / 8O + wd
  P3x3x : up to 36I / 21O + wd
- Arc Flash — Up to 6 sensors (Advanced)
- Comm. ports — Serial or extension port with IRIG-B
  2nd serial port or line diff. com port
  Dual Ethernet port with RSTP & PRP
- Analog I/O — 4 inputs / 4 outputs (external module)
- Temperature sensors — 12 RTDs (external module)
- Other — USB type B connector
  Detachable HMI (Advanced)

Protection functions per model 1/2

Protection functions	ANSI code	P3U10 P3U20	P3U30	P3F30	P3L30	P3M30	P3M32	P3G30	P3G32	P3T32
Distance	21	-	-	-	1	-	-	-	-	-
Under-impedance	21G	-	-	-	-	-	-	2	2	-
Fault locator	21FL	-	1	1	1	-	-	-	-	-
Overfluxing	24	-	-	-	-	-	-	1	1	1
Synchro-check	25	-	2	2	2	2	2	2	2	2
Undervoltage	27	-	3	3	3	3	3	3	3	3
Positive sequence undervoltage	27P	-	-	-	-	-	-	2	2	-
Stator earth-fault detection	27TN/64G	-	-	-	-	-	-	1	1	-
Directional active underpower	32	-	2	2	2	2	2	2	2	2
Phase undercurrent	37	1	1	-	-	1	1	-	-	-
Temperature monitoring	38/49T	12 (0)(1)	12 (1)	12 (1)	12 (1)	12 (1)	12 (1)	12 (1)	12 (1)	12 (1)
Loss of field	40	-	-	-	-	-	-	1	1	-
Under-reactance	21/40	-	-	-	-	-	-	2	2	-
Negative sequence overcurrent (motor, generator)	46	2	2	-	-	2	2	2	2	2
Cur. unbalance, broken conductor	46BC	1	1	1	1	-	-	-	-	-
Incorrect phase sequence	47	-	-	-	-	1	1	-	-	-
Excessive start time, locked rotor	48/51LR	1	1	-	-	1	1	-	-	-
Thermal overload	49	1	1	1	1	1	1	1	1	1
Phase overcurrent	50/51	3	3	3	3	3	3	3	3	3
Earth fault overcurrent	50N/51N	5	5	5	5	5	5	5	5	5
Breaker failure	50BF	1	1	1	1	1	1	1	1	1
Switch On To Fault (SOTF)	50HS	1	1	1	1	1	1	1	1	1
Capacitor bank unbalance	51C	1	1	2	2	2	2	2	2	2
Voltage dependant overcurrent	51V	-	1	1	1	-	-	1	1	-
Overvoltage	59	-	3	3	3	3	3	3	3	3

Protection functions per model 2/2

Protection functions	ANSI code	Standard (P3U)		Advanced (P3x)						
		P3U10 P3U20	P3U30	P3F30	P3L30	P3M30	P3M32	P3G30	P3G32	P3T32
Capacitor overvoltage	59C	1	1	1	1	-	-	-	-	-
Neutral voltage displacement	59N	3	3	2	2	2	2	2	2	2
CT supervision	60	1	1	1	1	1	1	1	2	2
VT supervision	60FL	-	1	1	1	1	1	1	1	1
Stator earth fault	64S	-	-	-	-	-	-	1	1	-
Frequent start inhibition	66	1	1	-	-	1	1	-	-	-
Directional phase overcurrent	67	-	4	4	4	4	4	4	4	4
Directional earth-fault o/c	67N	3	3	3	3	3	3	3	3	3
Transient intermittent	67NI	1	1	1	1	-	-	-	-	-
Magnetizing inrush detection	68F2	1	1	1	1	1	1	1	1	1
Fifth harmonic detection	68H5	1	1	1	1	1	1	1	1	1
Pole slip	78PS	-	-	-	-	-	-	1	1	-
Auto-recloser	79	5	5	5	5	-	-	-	-	-
Over or under frequency	81	-	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Rate of change of frequency	81R	-	1	1	1	1	1	1	1	1
Under frequency	81U	-	2	2	2	2	2	2	2	2
Lockout	86	1	1	1	1	1	1	1	1	1
Line differential	87L	-	-	-	2	-	-	-	-	-
Machine differential	87M	-	-	-	-	-	2	-	2	-
Transformer differential	87T	-	-	-	-	-	-	-	-	2
Programmable stages	99	8	8	8	8	8	8	8	8	8
Arc-flash detection stages		-	-	8	-	8	8	8	8	8
Cold load pick-up		1	1	1	1	1	1	1	1	1
Programmable curves		3	3	3	3	3	3	3	3	3
Setting groups (3)		4	4	4	4	4	4	4	4	4

(0) No temperature sensors for P3U10 and 12 optional for P3U20
(1) Using external RTD module
(2) P3U10 and P3U20 offer one voltage input. Function availability depends on the connection of the voltage input
(3) Not all protection functions have 4 setting groups. See details in the manual.

Key Customer Benefits

✓ **Enhanced safety, security, and reliability:**
- Meets latest standards
- Includes embedded Arc flash detection
- SmartApp allows remote operations
- Standard conformal coated circuit boards
- Proven plateform based on 100+ years of cumulated experience in protection relays (Sepam, Micom, Vamp)

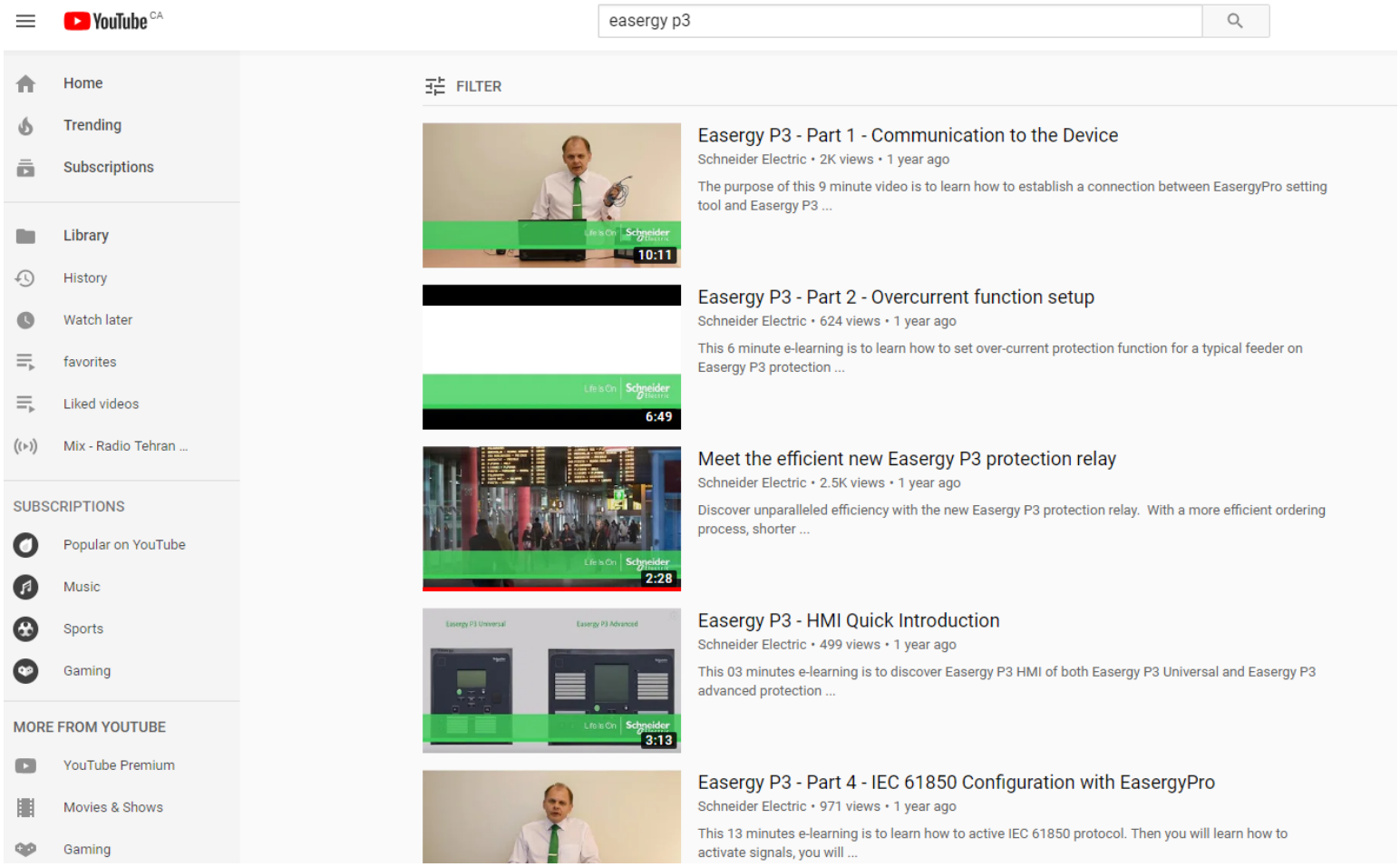
✓ **Outstanding ease of use:**
- Easy access to data via display or embedded Web-HMI
- Smartphone & tablet apps for faster operations & maintenance
- Simplified configuration through intuitive setting software (no installation required)
- Built-in virtual injection testing
- Detachable connectors (P3Ux0) for simple installation

✓ **Greater efficiency:**
- Smooth system integration with Serial or Ethernet (IEC61850) comm.
- Integrated functionalities for operational efficiency

✓ **Optimised total cost of ownership:**
- All in one and future-ready devices
- Powerful tools to reduce engineering costs

✓ **Extended control possibilities:**
- Programmable logic
- Virtual I/O
- Programmable push buttons & LEDs
- Mimic display (single-line)
- CB control buttons

Easergy P3Ttutorials/How To Videos Available on YouTube!



Webserver:
https://www.youtube.com/watch?v=XTD9nDyUh2g

EcoStruxure Power Device app:
https://www.youtube.com/watch?v=o5ADO6d7Gtg

eSetup EasergyPro:
https://www.youtube.com/watch?v=VCU9RpF6m9s

Virtual Injection:
https://www.youtube.com/watch?v=jYObqPodzSM

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