

# ELECTROCODER

Model: **EC-3V**

## Single & Three Phase Voltage Logger

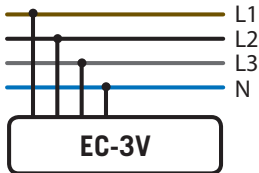
3Ø

3V

500V

IP43

IP65  
NEMA 12/4  
available

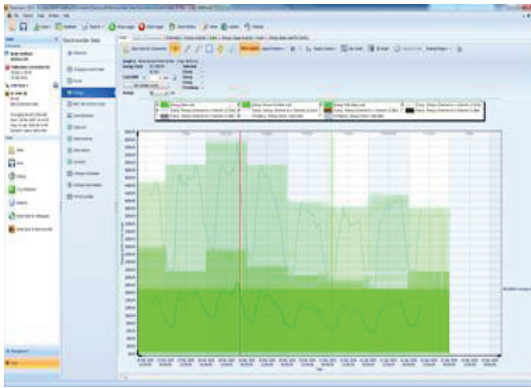


Three phase; 500Vac (L1, L2 & L3 to Neutral) with phase rotation checker

Constant Sampling technique, misses very little data

Complete with Electrosoft energy analysis software

Available as IP65/NEMA 12/4



- Enables voltage problems to be highlighted quickly for further investigation.
- Allows engineers to quickly and cost effectively monitor & resolve single & 3-phase voltage problems.
- Three phase input (L1, L2, & L3) & Neutral (N). Use for single phase logging also!
- Records  $V_{Avg}$ ,  $V_{Max}$  &  $V_{Min}$  with date & time & stores in non-volatile memory.
- Recorded data is uploaded to a PC for analysis with Electrosoft.
- Integral Phase Sequence or Rotation Checker.
- Free software, Electrosoft.
- Kit includes Logger, Carry Case, Electrosoft software, input leads & USB lead.
- Selectable averaging period to suit each situation, accurate to  $\pm 1\%$  of reading,  $\pm 1$  volt.
- Memory capacity of 32,000 true RMS voltage values per phase (10 bit), up to 300 days continuous recording.
- Order code:-  
EC-3V-50-KIT (50Hz)  
EC-3V-60-KIT (60Hz)
- Sealed to IP65/NEMA 12/4:-  
EC-3V-50-IP65-KIT (50Hz)  
EC-3V-60-IP65-KIT (60Hz)

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# ELECTROCORDER

## Model: EC-3V

The ElectroCorder range is designed to allow electrical distribution companies to cost effectively monitor single and three phase supplies. Our products allow voltage problems to be highlighted quickly and investigated.

Setting up the ElectroCorder is easy, suitable for semi-technical staff. Using the supplied Windows software, Electrosoft; the location's details are input to the unit's memory and stored. Electrosoft will then print documentation allowing users to record and/or pass on delivery instructions to colleagues. All data is also stored in a database of dispatches and returns, which tracks the whereabouts of all units.

Why is the ElectroCorder better than other similarly priced competitors? The ElectroCorder range use a constant sampling technique, unlike the single reading of competitors. When the loggers start to record, they sample every channel 16 times per cycle, a cycle is 16ms at 60Hz and 20ms at 50Hz. At the end of each averaging period, 3 quantities are saved for each channel, the True RMS average, the Max, which is the highest cycle value during the period and the Min, lowest cycle value. This means that it will record all the peaks and troughs which are one cycle or longer.

The voltage levels are stored with dates and times. With the back-up battery, the ElectroCorder can continue to record for months.

The EC-3V has an integral Phase Sequence/Rotation Checker.

The voltage levels are stored with dates and times. With the back-up battery, the ElectroCorder can continue to record for a year.

When the logger has been returned to the power company, the stored data is uploaded to a PC via the supplied USB cable. Using Electrosoft, the recorded voltage levels, dates & times can be viewed in both tabular and graphical form, exported to a spreadsheet or saved to file.

Graphs can be printed showing the recorded levels and the allowable tolerance bands. These results may then be discussed with the customer. Electrosoft also provides an internal database which effectively manages the distribution of multiple units.

Upload the data from the ElectroCorder and analyse it using Electrosoft. From this you can generate a report on the results and discuss with your customer what further action is needed.

On the logger, recording is signified by a flashing green light. A red light advises users that the unit has completed recording.

There are many models of ElectroCorder voltage and current loggers. Most can be supplied sealed to IP65, approximately NEMA 12 or NEMA 4.

### TECHNICAL SPECIFICATIONS (subject to change without notice)

|  |   |
|--|---|
| Measurement range (Vrms)                                 | 0Vac to 500Vrms (Ph – Ph) or 0V to 300Vrms (Ph – N)                                 |
| Maximum channel input voltage                            | 500Vrms (Ph – Ph), 300Vrms (Ph – N) or 700Vpeak                                     |
| Inputs (non-isolated inputs)                             | Three phase inputs (L1, L2 & L3) & Neutral (N), Non-isolated input channels         |
| Input socket types                                       | 4mm shrouded 'banana' plugs & sockets, each with insulated crocodile clip           |
| Measurement accuracy                                     | ±1% of reading ±1 Volt, 90Vac - 450Vrms (ph – ph); else ±3%. (50/60Hz ±2%)          |
| V <sub>min</sub> & V <sub>max</sub> meas time resolution | Always one cycle (50/60 Hz), independent of selected averaging period               |
| Sampling frequency                                       | 16 samples per cycle 800Hz @ 50Hz or 960Hz @ 60Hz                                   |
| Data recorded  | Average voltage, max & min voltage-cycle-value during the averaging period          |
| Memory capacity  | 192kB able to record 32,000 Voltage levels per phase                                |
| Memory type  | Non-volatile SEEPROM  |
| Memory - averaging period & duration                     | 1 sec to 60 mins (1sec gives 2 hrs logging, 60 min gives 300 days logging)          |
| Real-time clock accuracy                                 | Greater than 0.001%   |
| Input Lead Length  | <b>Metric</b> 2.0 metres; <b>Imperial/English</b> 6' 6"(6 feet, 6 inches)           |
| Battery life (while plugged in)                          | Unlimited - mains powered & battery backup (9,000 hours, 1 year while unpowered)    |
| Battery Type   | Unit contains three 9V Alkaline batteries (E-Block, PP3, 1604A)                     |
| Communications Interface type                            | USB, optically isolated to 5,2kV  |
| Electrosoft Software                                     | Windows (9x, 2K, ME, NT, XP, Vista & Windows 7); 1024 x 768 min resolution          |
| Environmental (temp & sealing)                           | -10C to +40C or +14°F to +104°F – Indoor or protected environment only!             |
| Dimensions & Weight                                      | <b>Metric</b> 250 x 175 x 70mm & 500g <b>Imperial/English</b> - 10" x 6" x 3" & 1lb |
| Standards  | Recording - EN50160: 1994 - CAT III, maximum input voltage 600Vac                   |

**WARRANTY & CALIBRATION** - All Acksen Ltd products carry a minimum of a one year's back to base warranty covering manufacturing defects and component failures. Each unit is individually calibrated during testing.

**CONFORMITY** - Emissions EN55022:1994B, (EN50081-1:1992). Immunity EN50082-2:1995, following the provisions of EMC directive 89/336/EEC. Recording std EN50160:1994. LVD 72/23/EEC with respect to EN60065. (IEC-61010). All models certified (light industrial, 3V/m).

**ORDERING** - ElectroCorder EC-3V-\*\*-KIT – inc. carry case, software, USB cable, four input leads & user guide.

|   | Description  | ENVIRONMENTAL SEALING          | ORDER CODE   |
|---|--|--------------------------------|--------------|
| 1 | Logger Kit (inc. items 2-6) -** (50 or 60 for 50Hz / 60Hz) | Protected or indoor only, IP43 | EC-3V-**-KIT |
| 2 | Replacement – Logger Unit -** (50 or 60 for 50Hz or 60Hz)  | Protected or indoor only, IP43 | EC-3V-**-LOG |
| 3 | Replacement - Carry Case                                   | Protected or indoor only, IP43 | EC-3V-CC1    |
| 4 | Replacement - USB Lead                                     | Protected or indoor only, IP43 | EC-3V-SL1    |
| 5 | Replacement – Input Leads ***colour                        | Protected or indoor only, IP43 | EC-3V-UL-*** |
| 6 | Replacement – Batteries (3 per unit)                       | Internal to logger             | EC-3V-BAT    |
| 7 | OPTIONAL Fused Input Leads ***colour                       | CAT III 1kV, 500mA/1000V/50kA  | EC-3V-FL-*** |
| 8 | Spare Fuse for Fused Leads                                 | 500mA/1000V/50kA, ceramic      | EC-3V-116048 |

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