

# Single Phase DIN Rail Kilowatt Hour Energy Meters



## DRK-1PPO-240

### Single Phase 230V - 15A Direct Connected, Pulse Output

This innovative two DIN module kilowatt hour energy meter measures the real consumption of active energy to Class 2 accuracy, with a resolution of 0.1 kW.h displayed via a non-zeroing mechanical counter on the front panel. The module is operated via an internal shunt, and the pulsed output is optically isolated from the power supply and load. This device is ideally suited for environments with overvoltage category III and pollution level 2 in accordance with IEC EN 61010-1.

### Specification

Active Energy Accuracy	Class 2
Input Frequency	45 – 65Hz
Nominal Input Voltage	230V
Input Voltage Tolerance	-15% to +10% of nominal
Nominal Input Voltage Burden	4 VA
Input Current	<15A
Start Up Current	50mA
Max Continuous Input Current	22.5A
Nominal Input Current Burden	2 VA
Current Measurement	Internal shunt
System CT Ratios	Direct connected up to 15A
Pulsed Output	Opto isolated
Pulse Duration	75 milliseconds
Pulsed Frequency	1 per kW.h
Counter	5 digit + 1 decimal point mechanical counter
Reading Resolution	0.1 kW.h
LED Indicator Display	Green - power supply Red – active power consumption @ 1 beat per 1 kW.h
Enclosure Material	Class V-0 in accordance with UL94
Compliant With	IEC EN 61010-1CAT III, IEC EN 61036, EMC and LVD
Operating Temperature	-10°C to +45°C
Storage Temperature	-25°C to +70°C
Relative Humidity	0 .. 95% non condensing
Dimensions	2 x DIN modules wide x 87mm high
IP Protection	IP51 at front, IP20 at rear

### Features

- Class 2 accuracy
- Pulsed output
- Direct connected up to 15A
- Non-zeroing 5 digit + 10<sup>th</sup> mechanical counter
- Static meter with direct start-up 22.5A max
- Active energy consumption indication
- 2 DIN module format

### Benefits

- Replaces rotating disc meter
- Energy efficiency and awareness
- High accuracy
- Systems balanced and safe
- No maintenance

### Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Energy management
- Building management
- Utility power monitoring
- Process control
- Motor control
- Secondary Metering

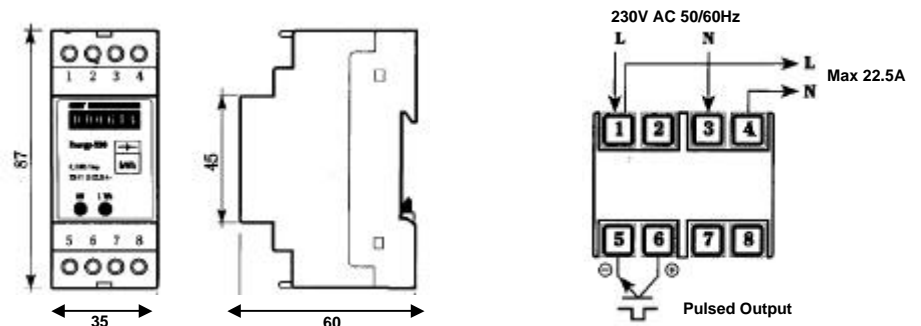
### Compliant With

- IEC EN 61010-1 CAT III
- IEC EN 61036
- EMC and LVD

### Ordering Codes

Description	Catalogue. No.
Single phase 230V – 15A Direct Connected, Pulse output	DRK-1PPO-240

### Dimensions and Connections



# Single Phase DIN Rail Kilowatt Hour Energy Meters



## DRK-1PCT-240

### Single Phase 230V - CT Connected 5A, Pulse Output

This innovative four DIN module kilowatt hour energy meter measures the real consumption of active energy to Class 2 accuracy, with a resolution of 1 kW.h displayed via a mechanical counter on the front panel. The module is operated via an internal current transformer, and the pulsed output is optically isolated from the power supply and load.

## Features

- Class 2 accuracy
- Pulsed output
- Selectable CT ratios
- Dip switch settings
- 7 digit mechanical counter
- Insulated CT connections (or isolated?)
- Active energy consumption indication
- 4 DIN module format

## Benefits

- Replaces rotating disc meter
- Energy efficiency and awareness
- High accuracy
- Systems balanced and safe
- No maintenance

## Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Energy management
- Building management
- Utility power monitoring
- Process control
- Motor control
- Secondary Metering

## Compliant With

- IEC EN 61010-1
- IEC EN 61036
- EMC and LVD

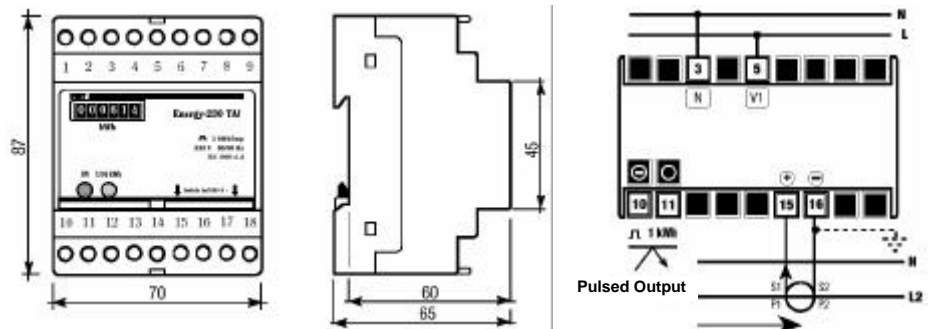
## Specification

Active Energy Accuracy	Class 2
Input Frequency	50 – 60Hz
Nominal Input Voltage	230V AC
Input Voltage Tolerance	-15% to +10% of nominal
Nominal Input Voltage Burden	<2.5 VA
Nominal Input Current	5A
Start Up Current	15mA
Max Continuous Input Current	6A
Nominal Input Current Burden	<2.5 VA
Current Measurement	Internal current transformer
System CT Ratios	5, 10, 25, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 600, 800, 1000A
Pulsed Output	Opto isolated
Pulse Duration	<100 milliseconds
Pulsed Frequency	1 per kW.h
Pulse Capacity	3 – 30V DC, <20mA
Counter	7 digit mechanical counter
Reading Resolution	1 kW.h
LED Indicator Display	Green: power supply Red : active power consumption @ 1 beat per 1 kW.h
Enclosure Material	Class V-0 in accordance with UL94
Compliant With	IEC EN 61010-1, IEC EN 61036, EMC and LVD
Operating Temperature	-10°C to +45°C
Storage Temperature	-25°C to +70°C
Relative Humidity	0 .. 95% non condensing
Dimensions	4 x DIN modules wide x 87mm high
IP Protection	IP20

## Ordering Codes

Description	Catalogue. No.
Single phase 230V - CT Connected 5A, Pulse output	DRK-1PCT-240

## Dimensions and Connections



# Three Phase DIN Rail Kilowatt Hour Energy Meters



## DRK-3PCT-415

### Three Phase 400V CT Connected 5A, Pulse Output, 3 or 4 Wire System

This innovative four DIN module kilowatt hour energy meter measures the real consumption of active energy to Class 2 accuracy, with a resolution of 1 kW.h displayed via a mechanical counter on the front panel. The module is operated via an internal current transformer, and the pulsed output is optically isolated from the power supply and load.

## Features

- Class 2 accuracy
- Pulsed output
- Selectable CT ratios
- Dip switch settings
- 7 digit mechanical counter
- Insulated CT connections (or isolated?)
- Active energy consumption indication
- 4 DIN module format
- 3 or 4 wire systems

## Benefits

- Replaces rotating disc meter
- Energy efficiency and awareness
- High accuracy
- Systems balanced and safe
- No maintenance

## Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Energy management
- Building management
- Utility power monitoring
- Process control
- Motor control
- Secondary Metering

## Compliant With

- IEC EN 61010-1
- IEC EN 61036
- EMC and LVD

## Specification

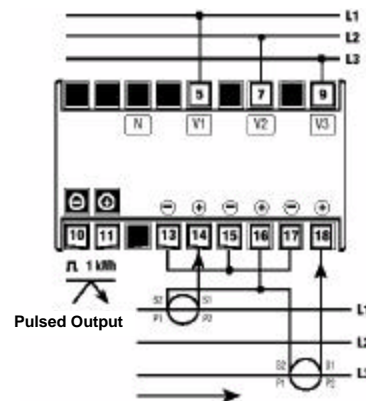
Active Energy Accuracy	Class 2
Input Frequency	50 – 60Hz
Nominal Input Voltage	400V
Input Voltage Tolerance	-15% to +10% of nominal
Nominal Input Voltage Burden	<2.5 VA
Nominal Input Current	5A
Start Up Current	15mA
Max Continuous Input Current	6A
Nominal Input Current Burden	<2.5 VA
Current Measurement	Internal current transformer
System CT Ratios	5, 10, 25, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 600, 800, 1000A
Pulsed Output	Opto isolated
Pulse Duration	<100 milliseconds
Pulsed Frequency	1 per kW.h
Pulse Capacity	3 – 30V DC, <20mA
Counter	7 digit mechanical counter
Reading Resolution	1 kW.h
LED Indicator Display	Green: power supply Red: active power consumption @ 1 beat per 1 kW.h Yellow: warning of ¼ kW.h negative
Enclosure Material	Class V-0 in accordance with UL94
Compliant With	IEC EN 61010-1, IEC EN 61036, EMC and LVD
Operating Temperature	-10°C to +45°C
Storage Temperature	-25°C to +70°C
Relative Humidity	0 .. 95% non condensing
Dimensions	4 x DIN modules wide x 87mm high
IP Protection	IP20

## Ordering Codes

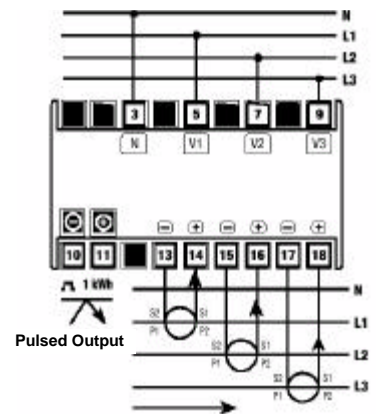
Description	Catalogue. No.
Three Phase 5A CT Connected, Pulse output, 3 or 4 Wire, Internal CT	DRK-3PCT-415

## Connections

### 3 Wire Systems



### 4 Wire Systems



## Dimensions – as per DRK-1PCT

# Three Phase DIN Rail Combined Energy Meters



## DRV-3PCT-415

### Three Phase 400V CT Connected 5A, Pulse Output, 3 or 4 Wire System

This innovative four DIN module combined energy meter counts the real consumption of active and reactive energy with a resolution of 1 kW.h displayed via a mechanical counter on the front panel. The module utilises an integral shunt and offers the benefit of measuring active energy to Class 2 and reactive energy to Class 3. The pulsed outputs are optically isolated from the power supply and load.

## Features

- Active energy Class 2 accuracy
- Reactive energy Class 3 accuracy
- Two pulsed outputs
- Selectable CT ratios
- Dip switch settings
- 7 digit mechanical counters
- Insulated CT connections (or isolated?)
- Active and reactive energy consumption indication
- 4 DIN module format
- 3 or 4 wire systems

## Benefits

- Replaces rotating disc meter
- Energy efficiency and awareness
- High accuracy
- Systems balanced and safe
- No maintenance

## Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Energy management
- Building management
- Utility power monitoring
- Process control
- Motor control
- Secondary Metering

## Compliant With

- IEC EN 61010-1
- IEC EN 61036
- EMC and LVD

## Specification

Accuracy	Active Energy: Class 2	Reactive Energy :Class 3
Input Frequency	50 – 60Hz	
Nominal Input Voltage	400V	
Input Voltage Tolerance	-15% to +10% of nominal	
Nominal Input Voltage Burden	<2.5 VA	
Nominal Input Current	5A	
Start Up Current	15mA	
Max Continuous Input Current	6A	
Nominal Input Current Burden	<2.5 VA	
Current Measurement	Internal shunt	
System CT Ratios	5, 10, 25, 50, 75,100, 125, 150, 200, 250, 300, 400, 500, 600, 800, 1000A	
Pulsed Output	2 x Opto isolated	
Pulse Duration	<100 milliseconds	
Pulsed Frequency	1 per kW.h	
Pulse Capacity	3 – 30V DC, <20mA	
Counter	2 x 7 digit mechanical counter	
Reading Resolution	1 kW.h	
LED Indicator Display	Green: power supply Red: active power consumption @ 1 beat per 1 kW.h Yellow: warning of ¼ kW.h negative	
Enclosure Material	Class V-0 in accordance with UL94	
Compliant With	IEC EN 61010-1, IEC EN 61036, EMC and LVD	
Operating Temperature	-10°C to +45°C	
Storage Temperature	-25°C to +70°C	
Relative Humidity	0 .. 95% non condensing	
Dimensions	4 x DIN modules wide x 87mm high	
IP Protection	IP20	

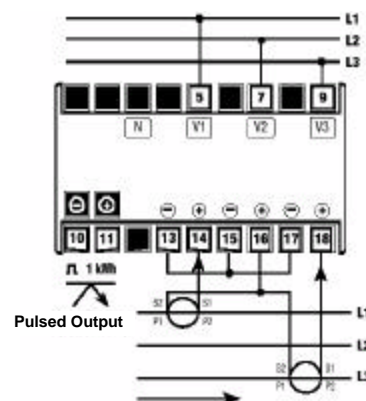
NB: Current transformer secondary terminals must not be earthed. Dedicated CTs are required.

## Ordering Codes

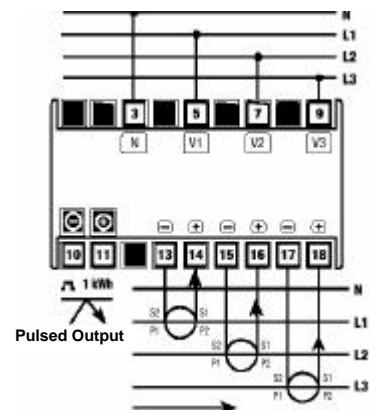
Description	Catalogue. No.
Three Phase 5A CT Connected, Pulse output, 3 or 4 Wire, Internal Shunt	DRV-3PCT-415

## Connections

### 3 Wire Systems



### 4 Wire Systems



## Dimensions – as per DRK-3PCT

# Concentrator Module for Kilowatt Hour Energy Meters



## DRK-485

### 8 Input Remote kW.h Energy Consumption Monitoring Device

The DRK-485 concentrator module provides remote monitoring of energy consumption from up to 8 Crompton kW.h energy meters located within 25 metres. Communication to the device is achieved with Modbus connection to a COM port on a PC via an RS485 serial line. Up to 32 concentrator modules can be connected to the RS485 line without the need for signal amplifiers. Up to 247 modules, in groups of 32, can be connected when separated by signal amplifiers.

## Features

- Collects up to 8 pulsed inputs
- Remote monitoring device
- Modbus protocol
- 8 dip switch settings
- Dual charge rate handling
- Data transit and power indicators
- 4 DIN module format

## Benefits

- Pulse collection
- Energy efficiency and awareness
- Systems balanced and safe
- No maintenance

## Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Energy management
- Building management
- Utility power monitoring
- Process control
- Motor control
- Secondary Metering

## Compliant With

- IEC EN 61010-1
- IEC EN 61036
- EMC and LVD

## Specification

Input Frequency	50 – 60Hz
Nominal Input Voltage	230V AC
Input Voltage Tolerance	-15% to +10% of nominal
Nominal Input Voltage Burden	<2.5 VA
Digital Communications	RS485 interface Modbus protocol
Band Handling	Dual charge
Baud Rate	9600 bits per second
Transmission Mode	ASCII
Error Detection Method	Longitudinal Redundancy Check
Max Number of Contactors	Up to 8 input signals (single phase and three phase)
Pulse Input Duration	<100 milliseconds
LED Indicator Display	Green: power supply Red: data transit via RS485
Enclosure Material	Class V-0 in accordance with UL94
Compliant With	IEC EN 61010-1, IEC EN 61036, EMC and LVD
Operating Temperature	-10°C to +45°C
Storage Temperature	-25°C to +70°C
Relative Humidity	0 .. 95% non condensing
Dimensions	4 x DIN modules wide x 87mm high
IP Protection	IP41 to front, IP20 to rear

## Ordering Codes

Description	Catalogue. No.
Remote kW.h Energy Consumption Monitoring Device	DRK-485

## Dimensions and Connections

