



Product Range Catalog 2020-21

Quick Product Overview (Global)

TRANSDUCER & ISOLATOR
DIGITAL PANEL METER
MULTIFUNCTION METER
POWER QUALITY ANALYZER
GENSET CONTROLLERS
POWER FACTOR CONTROLLER

POWER SUPPLY
BATTERY CHARGER
DIGITAL PROTECTION RELAY
ANALOG PANEL METER
CURRENT TRANSFORMER (CT)
SHUNT

ROTARY CAM SWITCH
MULTIMETER
CLAMP METER
INSULATION TESTER



Index

DIGITAL EXPERTISE

DIGITAL PANEL METER	1
MULTIFUNCTION METER	2
POWER QUALITY ANALYZER	7
GENSET CONTROLLER	9
POWER FACTOR CONTROLLER	10
TRANSDUCER & ISOLATOR	11
POWER SUPPLY & BATTERY CHARGER	17
DIGITAL PROTECTION RELAY	19

ANALOG EXPERTISE

ANALOG PANEL METER	22
CURRENT TRANSFORMER (CT)	25
SHUNT	34
ROTARY CAM SWITCH	35

TMI EXPERTISE

MULTIMETER	37
CLAMP METER	38
INSULATION TESTER	39

Programmable Digital Meter

- True RMS measurement
- 4 Digits Ultra-bright LED Display
- On-site programmable using front keys
- Easy Programmability function
- Click fit Arrangement
- Onsite selection of Auto scroll / Fixed screen
- Polycarbonate Housing with UL94 V-0 grade
- EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529
- Non Linear Scale – Bent Function (Rish Eine+)
- Ambient Temperature Indication & PF Display (Rish Eine+)



RISH EINE/ EINE +

Versions

Rish Eine (AC Voltmeter / Ammeter)
Rish Eine+ (DC Voltmeter / Ammeter)

Parameters

Input	: Rish Eine : 100...500V LL (3Φ) or 57...300V LN (1Φ) or 600V LN (1Φ – Non programmable) or 1A or 5 A (1Φ or 3Φ) Rish Eine + : ±75mV or ±150mV or ±5V or ±10V or 0...500V or 0...1000VDC or ±10mA or ±20mA or 4...20mA or ±1A or ±5A
Display	: 4x Digit, Red Colour Ultra Bright LED, 14mm
Accuracy	: ± 0.5 % of Nominal value
Auxiliary	: 40...300V AC/DC or 20...40V AC & 20...60V DC
Protection	: IP50 from Front Side
Size (H x W x D)	: 96 x 96 x 40 mm & 48 x 96 x 68 mm



RISH DPM Hz

Parameters

Input	: 10...500Hz (in the voltage Range : 50...500VAC)
Display	: 4x Digit, RED Colour Ultra Bright LED, 14mm
Accuracy	: ±0.5 Hz ±1 Digit
Auxiliary	: 40...300V AC/DC or 20...40V AC & 20...60V DC
Protection	: IP50 from Front Side
Size (H x W x D)	: 96 x 96 x 55 mm & 48 x 96 x 68 mm

Additional Features

- Measurement of Frequency
- Display of Frequency & RPM



RISH DPM

Parameters

Input	: Fixed Input: 63.5VLN/110VLL or 133VLN/230VLL or 239.6VLN/ 415VLL or 254VLN/440VLL 1A or 5A programmable on-site
Display	: 4x Digit, RED Colour, 11 mm or 20 mm
Accuracy	: ±0.5% of range (KW & KVA), ±1% of range (KVA), ±2° C (PF)
Auxiliary	: 40...300V AC/DC or 20...40V AC & 20...60V DC
Protection	: IP54 from Front Side
Size (H x W x D)	: 96 x 96 x 80 mm

Additional Features

- User Selectable Power Parameter

Note : For approbation details kindly contact nearest sales office

Basic Multifunction Meters

Delta Series

- True RMS measurement
- On-site programmable for Primary & Secondary values
- Click fit arrangement for easy installation
- Polycarbonate Housing with UL94 V-0 grade
- On-site user selectable system - 3 Φ - 3/4W unbalance & 1 Φ 2W network
- Storage of MIN / MAX values
- RPM Measurement
- EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529



RISH OPTIMA / DELTA VAF

Parameters

Input	: 57.7...290 VLN/ 100...500VLL (Programmable) - 45...65 Hz 1A or 5A (Programmable)
Auxiliary	: 40...300V AC/DC or 20...40V AC / 20...60V DC (Optima) 40...300V AC/DC or 12...28 VDC (Delta)
Display	: 3 Digit 3 Line (Optima) / 4 Digit 3 Line (Delta)
Accuracy	: Class 1
Measures	: V, A, Hz, Run Hour, ON Hour, No. of Interruptions
Output	: Relay (Limit Switch Function)
Protection	: IP50 from Front Side
Size (H x W x D)	: 96 x 96 x 55 mm (without add-on card) 96 x 96 x 62 mm (with add-on card)



RISH DELTA POWER

Parameters

Input	: 57.7...290 VLN/ 100...500VLL (Programmable) - 45...65 Hz 1A or 5A (Programmable)
Auxiliary	: 40V...300V AC/DC or 12...48V DC
Accuracy	: Class 1
Measures	: V, A, Hz, KW, KVA, PF, Phase Angle, Run Hour, ON Hour,
Output	: Relay (Limit Switch Function)
Protection	: IP50 from Front Side
Size (H x W x D)	: 96 x 96 x 55 mm (without add-on card) 96 x 96 x 62 mm (with add-on card)



RISH DELTA ENERGY

Parameters

Input	: 57.7...290 VLN/ 100...500VLL (Programmable) - 45...65 Hz 1A or 5A (Programmable)
Auxiliary	: 40V...300V AC/DC or 12...48V DC
Accuracy	: Class 1
Measures	: V, A, Hz, KW, KVA, PF, Phase Angle, KWH, KVAH, Demand, Run Hour, ON Hour, No. of Interruptions
Output	: Relay (Limit Switch Function) & RS485 Modbus Communication
Protection	: IP50 from Front Side
Size (H x W x D)	: 96 x 96 x 55 mm (without add-on card) 96 x 96 x 62 mm (with add-on card)

Additional Features

- Programmable Energy format & Energy rollover count
- User Assignable Registers for quick data access

Energy Meters Series

- True RMS measurement
- Accuracy as per IEC 62053-21
- On-site programmable for Primary & Secondary values
- On-site user selectable system - 3 Φ - 3/4W & 1 Φ 2W network
- User selectable Low Current suppression (below 30mA)
- % THD Measurement
- Programmable Energy format & Energy rollover count
- User Assignable Registers for quick data access
- Polycarbonate Housing with UL94 V-0 grade
- EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529



RISH EM 13xx SERIES



RISH EM 2340DS

Versions

- : Single Source Energy Meters
 - Rish EM 1320 – Display of Active Energy only
 - Rish EM 1340 – Display of All Parameters
- : Dual Source Energy Meters
 - Rish EM 2340DS

Parameters

- Input : 57.7...290 V LN/ 100...500V LL (Programmable) - 45...65 Hz
1A or 5A (Programmable)
- Auxiliary : 60V...300V AC/DC or 20...40V AC/20...60V DC
- Display : 4 Digit, Single Line, 3 parameters at a glance
- Accuracy : Class 1
- Measures : EM 1320 – KWH, EM 1340/2340DS – V, A, Hz, KW, KVA_r, KVA, PF, Phase Angle, KWH, KVA_rH, KVAH, Neutral Current, THD, Demand, Run Hour, ON Hour, No. Of Interruptions
- Output : RS485 Modbus or 1x Relay Outputs or 2x Relay Outputs (EM 1340 only) (All plug and play modules)
- Protection : IP50 from Front Side
- Size (H x W x D) : 96 x 96 x 55 mm (With Add-on Module)
96 x 96 x 35 mm (Without Add-on Module)

Additional Features

- Phase / Current Reversal Indication



Single Source Energy Meters

Versions

- : Rish EM 3490 – Counter Type energy Meter
- : Rish EM 3490SS – Single Source LED Display Energy Meter

Parameters

- Input : 63.5VLN/ 110VLL or 133VLN/ 230VLL or 239.6VLN/415VLL (Fixed Input) 1A or 5A (Fixed Input) 45...55Hz (For Rish EM 3490) & 40...70Hz (For Rish EM 3490SS)
- Auxiliary : Self Powered (Rish EM 3490)
100...250V AC/DC or 12V...48V DC (Rish EM 3490 SS)
- Display : 8 Digit, Single Line, 9 mm digit height
- Accuracy : Class 1
- Measures : EM 3490 – KWH
EM 3490SS –KWH
- Output : RS485 Modbus or
1x Relay Outputs or 2x Relay Outputs (EM 1340 only) (All plug and play modules)
- Protection : IP54 from Front Side
- Size (H x W x D) : 96 x 96 x 80 mm

Additional Features

- Phase / Current Reversal Indication
- Built-in Transient protection (EM 34090)

Advanced Multifunction Meters Master Series

- True RMS measurement
- On-site programmable for Primary & Secondary values
- Phasor Diagram & Waveform with user selectable Line colour selection (3430i & 3440i only)
- On-site user selectable system - 3 Φ - 3/4W unbalance network
- User selectable Low Current suppression (below 30mA)
- Storage of MIN / MAX values
- % THD Measurement
- Programmable Energy format & Energy rollover count
- User Assignable Registers for quick data access
- Polycarbonate Housing with UL94 V-0 grade
- EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529



RISH MASTER 3430 (LED)



RISH MASTER 3430i (LCD)

Versions

LED – Rish Master 3430
LCD – Rish Master 3430i (Touch Screen)

Parameters

Input	: 57.7...346 VLN/ 100...600VLL (Programmable) - 45...65 Hz 1A or 5A (Programmable)
Auxiliary	: 60V...300V AC/DC or 12...60V AC/DC
Display	: 4 Digit 3 Line for LED Version
Accuracy	: Class 0.2
Measures	: V, A, Hz, KW, KVA, PF, Phase Angle, KWH, KVAH, Neutral Current, THD
Output	: RS485 Modbus + 2x Relay Output or RS485 Modbus + 1x Relay + 2x Analog Outputs or Ethernet Modbus (TCP/IP) - RJ45 (All plug and play modules)
Protection	: IP54 from Front Side
Size	: 96 x 96 x 80 mm



RISH MASTER 3440 (LED)



**RISH MASTER 3440i /
RISH MASTER 3480 (LCD)**

Versions

LED – Rish Master 3440
LCD – Rish Master 3440i / 3480 (Touch Screen)

Parameters

Input	: 57.7...346 VLN/ 100...600VLL (Programmable) - 45...65 Hz 1A or 5A (Programmable)
Auxiliary	: 60V...300V AC/DC or 12...60V AC/DC
Display	: 4 Digit 3 Line for LED Version
Accuracy	: Class 0.2 & Class 0.2S (on request)
Measures	: V, A, Hz, KW, KVA, PF, Phase Angle, KWH, KVAH, Neutral Current, THD, Demand, Run Hour, ON Hour, No. of Interruptions
Output	: RS485 Modbus + 2x Relay Output or RS485 Modbus + 1x Relay + 2x Analog Outputs or Ethernet Modbus (TCP/IP) - RJ45 (All plug and play modules)
Protection	: IP54 from Front Side
Size	: 96 x 96 x 80 mm

Additional Features

- Phase reversal Indication

Note : For approbation details kindly contact nearest sales office



Dual Source Energy Meters

Versions : Rish EM 3490DS – Dual Source LED Display Energy Meter
Rish EM 3490DSi – Dual Source Touch Screen LCD Display Energy Meter

Parameters

Input : 63.5VLN/ 110VLL or 133VLN/ 230VLL or 239.6VLN/415VLL
(Fixed Input for EM 3490DS)
57.7...288.68VLN / 100...500VLL
(Programmable Input for EM 3490DSi)
1A or 5A (Programmable)
40...70Hz (For EM 3490 DS) & 45...66Hz (For EM 3490DSi)
Generator Sense - 10...60 VDC / 20 to 300 VAC 0.3 VA

Auxiliary : 100...250V AC/DC or 12V...48V DC (Rish 3490 SS)
60...300 VAC /DC (Rish EM 3490DSi)

Display : 7 Digit, Dual Line for LED version

Accuracy : Class 1 (Rish EM 3490DS) & Class 0.5S (Rish EM 3490DSi)

Parameters : Rish EM 3490DS - V, A, Hz, KW, KVA, PF, KWH, Run Hour, ON Hour, No. Of Interruptions
Rish EM 3490DSi - V, A, Hz, KW, KVA, PF, Phase Angle, KWH, KVAh, KVAH, Neutral Current, Harmonics (56th Level), THD, Demand, Run Hour, ON Hour, No. Of Interruptions, Old Parameters

Output : RS485 Modbus or 1x Relay Outputs (EM 3490DS only)
RS485 Modbus or 2x Relay Outputs (EM 3490DSi only)
(All plug and play modules)

Protection : IP54 from Front Side

Size (H x W x D) : 96 x 96 x 80 mm

Additional Features

- Phase / Current Reversal Indication
- Direct Cost Calculations (EM 3490DSi only)
- Time of Day (TOD/TOU function) – (EM 3490DSi only)
- Auto connect current limit – ACCL function (EM3490DSi only)
- Colour Selection as per user choice on site (EM3490DSi only)

Versions : Rish EM DC 6001 – DC Energy Meter without Data Logging
Rish EM DC 6002 – DC Energy Meter with Data Logging + USB

Parameters

Input : 10...60V DC or 61...200V DC or 201...1000V DC
(Subject to Ordering) 50...150 mV (Shunt Operated) programmable on site

Auxiliary : 60...300V AC/DC or 12...70V DC

Display : 8 Digit 4 Line Display

Accuracy : Class 1

Parameters : DC – V, A, Power Energy, Run Hour, ON Hour, No. Of Interruptions, Demand, Old Parameter

Output : RS485 Modbus or 2x Relay Outputs or 4x Relay Outputs or

Protection : IP54 from Front Side

Size (H x W x D) : 96 x 96 x 80 mm



**RISH EMDC
(DC ENERGY METER)**

Additional Features

- Multi-channel support – up to 4 channels
- Load Profile Analysis
- RTC with Data Storage
- Reverse current Locking
- Isolated Voltage Channel

Load Manager

- True RMS measurement
- Energy Accuracy Class as per IEC 62053
- On-site programmable for Primary & Secondary values
- On-site user selectable system - 3 Φ - 3/4W unbalance or 1 Φ 2W network
- Individual Harmonics – up to 31st Level for Voltage & Current
- % THD Measurement
- Inbuilt RTC & Data logging function (Optional)
- USB port interface for data access
- User assignable screens
- User Assignable Registers for quick data access
- Polycarbonate Housing with UL94 V-0 grade
- Plug & Play Current Transformer option for easy wiring
- EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529

Parameters



LM 1360



LM 1360 with Plug & Play CT

Input	: 57.7...346.42 V LN/ 100...600V LL (Programmable)-45...66 Hz 1A or 5A(Programmable) 100mA in case of Plug & play CT option
Auxiliary	: 100V...550V AC/DC or 12-60V AC/DC
Display	: 4 Line 4 Digit LCD display +9 digit separate energy counter + Load analog graph
Accuracy	: Class 0.2S Class 1 (for Plug and play CT option)
Measures	: LM 1360 – V, A, Hz, KW, KVA, PF, Phase Angle, KWh, KVAh, KVAh, Neutral Current, Harmonics (31st), THD, Demand, Run Hour, ON Hour, No. Of Interruptions, old parameters
Output	: RS485 Modbus + 2 x Pulse Output or Ethernet (Modbus TCP/IP) or Ethernet (Modbus TCP/IP) + Data logging + RTC RS485 Modbus + 2x Pulse Output + Data logging + USB + RTC or GSM Data Logger (All plug and play modules)
Protection	: IP50 from Front Side
Size (H x W x D)	: 96 x 96 x 70 mm

Demand Controller

- True RMS measurement
- Demand measurement and Control
- Energy Accuracy Class as per IEC 62053
- On-site programmable for Primary & Secondary values
- On-site user selectable system - 3 Φ - 3/4W unbalance
- Colour Selection as per user choice on site
- Individual Harmonics–upto 56th Level for Voltage & Current
- % THD Measurement
- Time of Day (TOD/TOU function)
- Inbuilt RTC – Real Time Clock
- User assignable registers for quick data access
- Polycarbonate Housing with UL94 V-0 grade

Parameters



Rish DMCi

Input	: 57.7...288.68 V LN/ 100...500V LL (Programmable) - 45...66 Hz 1A or 5A (Programmable)
Auxiliary	: 60...300VAC/DC
Display	: Touch Screen LCD Display
Accuracy	: Class 0.5S
Measures	: V, A, Hz, KW, KVA, PF, Phase Angle, KWH, KVAh, KVAh, Neutral Current, Harmonics (56th), THD, Demand, Run Hour, ON Hour, No. Of Interruptions
Output	: 4x Relay Output or RS485 Modbus + 4x Relay Output (All plug and play modules)
Protection	: IP54 from Front Side
Size (H x W x D)	: 96 x 96 x 80 mm

Panel Mount Power Quality Analyzer

Rish PQA

- Measurement of over 300 parameters
- Compliance to Power Quality norms as per IEC 61000-4-30
- Automatic Report Generation as per EN 50160 thresholds or user defined thresholds
- Individual Harmonics up to 63rd level for current and Voltage as per IEC 61000-4-7
- Harmonic grouping and subgrouping
- Voltage Swell, Sag (Dip) and Interruption Detection
- Unbalance Detection & Measurements
- Energy as per IEC 62053 Class 0.2S
- Favourite Screen – up to 20 screens with 4 parameters each as per user choice
- Various views of waveforms and phasor diagrams
- In-built data logging in 8GB SD card
- Trend Analysis and event loggings
- User interface with RS485 Modbus and USB port
- Dedicated data software – Power Configurator
- Polycarbonate Housing with UL94 V-0 grade
- touch screen interface for easy navigation and settings

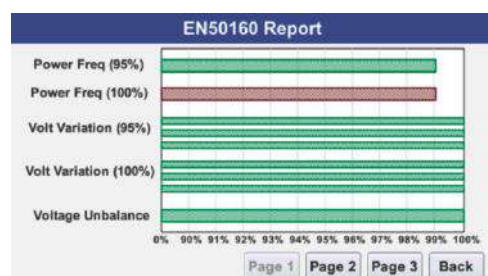


RISH PQA

Parameters

Input	: 57.7 VLN / 100VLL...500VLN / 866VLL 1A or 5A onsite Programmable
Display	: 5" TFT Touch Screen Display with 480 x 272 pixels resolution
Accuracy	: Class 0.2S for Energy and Measurement Class S
Sampling Rate	: 50kHz (1000 Samples per Cycle)
Auxiliary	: 85...265V AC/DC
Output	: 2x Relay + RS485 Modbus
Protection	: IP54 (Front) IP20 (Rear)
Size (H x W x D)	: 144 x 144 x 101 mm (with terminal caps) 144 x 144 x 129 mm (without terminal caps)

EN 50160 Report



Data Logging (User Defined)

Power Configurator - Software Screens



Note : For approbation details kindly contact nearest sales office

Power Quality Monitor

- True RMS measurement
- Energy Accuracy Class as per IEC 62053
- On-site programmable for Primary & Secondary values
- On-site user selectable system - 3 Φ -3/4W unbalance
- Colour Selection as per user choice on site
- Up to 30x Events Capture – Voltage Sag, Swell & Interruptions
- Individual Harmonics – up to 56th Level for Voltage & Current
- % THD Measurement
- Time of Day (TOD/TOU function)
- Inbuilt RTC – Real Time Clock
- User assignable registers for quick data access
- Polycarbonate Housing with UL94 V-0 grade
- EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529

Parameters



RISH PQM



Input	: 57.7...288.68 V LN/ 100...500V LL (Programmable) - 45...66 Hz 1A or 5A (Programmable)
Auxiliary	: 60...300VAC/DC
Display	: Touch Screen LCD Display
Accuracy	: Class 0.5S
Measures	: V, A, Hz, KW, KVA, PF, Phase Angle, KWH, KVAh, KVAH, Neutral Current, Harmonics (56th), THD, Neutral Current, Demand, Run Hour, ON Hour, No. Of Interruptions, Event Logging
Output	: Rs485 Modbus or RS485 Modbus + 2x Pulse Output or Ethernet Modbus TCP/IP (All plug & play modules)
Protection	: IP54 from Front Side
Size (H x W x D)	: 96 x 96 x 80 mm
Screen View	: Phasor Representation (vector) & scope view

Note : For approbation details kindly contact nearest sales office

A genset acts as a backup or an alternate power source. It provides power output to the loads as and when required. Genset Controller is used to control the functioning of the Genset system. A genset controller provides various monitoring functions of a genset, monitoring of various electrical parameters like voltage, current, frequency, power etc. It also has capability to measure the temperature, oil level/ pressure etc.

- Fuel Level and Oil Temperature
- Voltage Drop Immunity
- Smart auto setup systems with Events log with up to 250 events
- Remote start with closure of the generator contactor even with mains present
- Easy programming & navigation with display on same page for Current & Voltage
- Digital / Analog inputs & outputs programmable from keyboard
- Help service page with visualization of inputs & outputs status
- Fast & easy updating of the maintenance hours along with & Timer Start / Stop for programmed work cycles
- RS232 - RS485 independent serial interfaces
- Engine CANBUS Communication J1939
- Gasoline engines support with automatic management of the choke valve



Auto Mains Failure Controller (AMF)

Parameters

Generator (DG Set)	Yes
Engine (DG Set)	Yes
Utility	Yes
Battery Monitoring	Yes
Input (DI/AI)	Yes
Outputs (Alarm / OC)	Yes
Communication	RS485, CANBUS
Data Logging	Yes
Offer Requirement	High End



DG Controller (DGSC)

Parameters

Generator (DG Set)	Yes
Engine (DG Set)	Yes
Utility	No
Battery Monitoring	Yes
Input (DI/AI)	Yes
Outputs (Alarm / OC)	Yes
Communication	RS485, CANBUS
Data Logging	Yes
Offer Requirement	Standard



Auto Transfer Switch (ATS)

Parameters

Generator (DG Set)	Yes
Engine (DG Set)	No
Utility	Yes
Battery Monitoring	No
Input (DI/AI) DI Only	DI Only
Outputs (Alarm / OC)	Yes
Communication	RS485
Data Logging	Yes
Offer Requirement	Upgradation

Note : For approbation details kindly contact nearest sales office

APFC

- Auto-initialisation Function to detect (LCD Versions only)
 - No. of capacitors connected (Capacitor bank count)
 - Capacitor kvar value
 - Phase correction angle
- Capacitor programming option
 - Direct kvar value
 - Control series
 - Auto detected value
- Intelligent bank algorithm for optimum bank switching
- Manual Mode for diagnosis purpose.
- Test Run Function - to measure kVAR value of connected capacitor bank
- Onsite fully programmable (LCD Versions only)
- Measurement of System Min/ Max values
- Measurement of Demand Parameters (LCD Versions only)
- THD and individual harmonics up to 31st level (LCD Versions only)
- Reset Function (LCD Versions only)
- EMC Compatibility



PFC 12

Parameters

Input	: 240VAC 1A or 5A (Programmable)
Auxiliary	: 110...550V AC/DC
Display	: LCD Display
Accuracy	: $\pm 1\%$ for Power & Energy
No. of Steps	: 6x Step or 8x Step or 12x Step (PFC 12) 4x Step or 6x Step or 8x Step (PFC 08)
Measures	: V, A, Hz, KW, KVAR, KVA, PF, Bank Status, Diff KVar to Target PF, KWH, KVARh, KVAh, Harmonics (31st), THD, Demand, Run Hour, ON Hour, No. Of Interruptions, System Faults, Bank Switching counts, operation time
Output	: Relay Output, RS485 Modbus (Optional)
Protection	: IP54 from Front Side
Size (H x W x D)	: 144 x 144 x 56 mm (PFC 12) 96 x 96 x 51 mm (without add-on card)(PFC 08) 96 x 96 x 75 mm (with add-on card)(PFC 08)



PFC 08L

Parameters

Input	: 240VAC 1A or 5A (Programmable)
Auxiliary	: 80...300V AC
Display	: 3 Digit 7 Segment LED Display
No. of Steps	: 4x Step or 6x Step or 8x Step
Measures	: Real-time cos phi
Output	: Relay Output
Protection	: IP54 from Front Side
Size (H x W x D)	: 96 x 96 x 35 mm (without added module card), 96 x 96 x 55mm (with added module card)

Note : For approbation details kindly contact nearest sales office

Programmable AC Transducers

Rish Con Series

- Compliance to IEC 60688, EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529
- True RMS measurement
- On-site programmable for Primary & Secondary values
- Available in Single or Dual output type (Load Independent)
- On site selectable output type (DC current / DC voltage) via DIP Switches
- Output Simulation
- Bent Characteristics function at Outputs
- LED indication for power on and output type
- Configuration Software - Freeware
- PRKAB programmer for programming - Optional



RISH CON V

Parameters

Input	: 57...500V (45...66 Hz)
Display	: 7-Segment LCD Display (Optional)
Output**	: Current : 0...20 mA / 4...20 mA DC (Burden - 15V) Voltage : 0...10V DC (Burden - 2mA) RS485 Modbus (Optional)
Ripple	: ≤ 1% pk-pk
Response Time	: <400msec
Auxiliary	: 60V...300V AC/DC or 24...60V AC/DC
Accuracy	: Class 0.2
Size (H x W x D)	: 65.5 x 43.75 x 106.5 mm
Mounting	: Din Rail - 35mm Standard & Option for Wall Mount



RISH CON I

Parameters

Input	: 1...5A (45...66 Hz)
Display	: 7-Segment LCD Display (Optional)
Output**	: Current : 0...20 mA / 4...20 mA DC (Burden - 15V) Voltage : 0...10V DC (Burden - 2mA) RS485 Modbus (Optional)
Ripple	: ≤ 1% pk-pk
Response Time	: <400msec
Auxiliary	: 60V...300V AC/DC or 24...60V AC/DC
Accuracy	: Class 0.2
Size (H x W x D)	: 65.5 x 43.75 x 106.5 mm
Mounting	: Din Rail - 35mm Standard & Option for Wall Mount



RISH CON Hz

Parameters

Input	: 45...55Hz or 48...52Hz or 55...65Hz or 45...65Hz (min span 4Hz) In voltage range 57...500V
Display	: 7-Segment LCD Display (Optional)
Output**	: Current : 0...20 mA / 4...20 mA DC (Burden - 15V) Voltage : 0...10V DC (Burden - 2mA) RS485 Modbus (Optional)
Ripple	: ≤ 1% pk-pk
Response Time	: <400msec
Auxiliary	: 60V...300V AC/DC or 24...60V AC/DC
Accuracy	: Class 0.2
Size (H x W x D)	: 65.5 x 43.75 x 106.5 mm
Mounting	: Din Rail - 35mm Standard & Option for Wall Mount

Note: ** For Non Standard requirements please contact nearest sales office.



RISH CON P



Parameters

Input	: 100...500VLL & 1...5A
Display	: 7-Segment LCD Display (Optional)
Output**	: Current : 0...20 mA / 4...20 mA DC (Burden - 15V) Voltage : 0...10V DC (Burden - 2mA) RS485 Modbus (Optional)
Ripple	: $\leq 1\%$ pk-pk
Response Time	: <750msec
Auxiliary	: 60V...300V AC/DC or 24...60V AC/DC
Accuracy	: Class 0.2 for Power Class 0.5 for Power Factor & Phase Angle
Size (H x W x D)	: 65.5 x 78.5 x 106.5 mm
Mounting	: Din Rail - 35mm Standard & Option for Wall Mount

Additional Feature

- User selectable parameter onsite from available 5x options - Active Power or Reactive Power or Apparent Power or Power Factor or Phase Angle

Non-programmable AC Transducers

Rish Con Series

- Compliance to IEC 60688, EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529
- True RMS & Average measurement types
- Dual output option available for Average measurement type (Load Independent)
- LED indication for power



RISH CON CV



Parameters

Input	: 0...63.5V to 0...500V (50 or 60 Hz)
Output**	: Current : 0...20 mA / 4...20 mA DC (Burden - 15V) Voltage : 0...5V/ 0...10V DC (Burden - 2mA)
Ripple	: $\leq 1\%$ pk-pk
Response Time	: <250msec
Auxiliary	: 40...300VAC/DC or 24...60VAC/DC for single output versions 60...300VAC/DC or 20...40VAC & 20...60V DC for dual output version
Accuracy	: Class 0.2
Size (H x W x D)	: 65.5 x 22.50 x 106.5 mm (Single Output) 65.5 x 43.75 x 106.5 mm (Dual Output)
Mounting	: Din Rail - 35mm Standard & Option for Wall Mount



RISH CON CA



Parameters

Input	: 0...1A or 0...5A(50 or 60 Hz)
Output**	: Current : 0...20 mA / 4...20 mA DC (Burden - 15V) Voltage : 0...5V/ 0...10V DC (Burden - 2mA)
Ripple	: $\leq 1\%$ pk-pk
Response Time	: <250msec
Auxiliary	: 40...300VAC/DC or 24...60VAC/DC for single output versions 60...300VAC/DC or 20...40V AC & 20...60V DC for dual output version
Accuracy	: Class 0.2
Size (H x W x D)	: 65.5 x 22.50 x 106.5 mm (Single Output) 65.5 x 43.75 x 106.5 mm (Dual Output)
Mounting	: Din Rail - 35mm Standard & Option for Wall Mount

Note: ** For Non Standard requirements please contact nearest sales office.

Non-programmable 3Φ AC Transducers

- Compliance to IEC 60688, EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529
- Available for Voltage & Current measurement
- Low power consumption / Smaller CTs & PTs can be used
- Reliable SMD technology providing robust design
- Screw terminals suitable for multi stranded or thick solid wires.
- High Electric isolation between input / output and power supply



RISH DUCER E13

Parameters

Input**	: 100/√3 or 110/√3 or 120/√3 or 100 or 110 or 116.66 or 120 or 125 or 133.33 or 150 or 250 or 400 or 500 V AC
Output**	: 1 or 1.2 or 5 or 6A AC Current : 0...1mA / 0...5mA/ 0...10mA/ 0...20mA/ 4...20 mA Burden - 15 V Voltage : 0...10V / 1...5V DC Burden - 20 mA
Ripple	: ≤ 1% pk-pk
Response Time	: <300msec
Auxiliary	: 85...230V AC/DC or 24...60V AC/DC
Accuracy	: Class 0.5
Size (H x W x D)	: 70 x 125 x 125 mm
Mounting	: Wall or DIN Rail

Programmable Multifunction AC Transducers

- Compliance to IEC 60688, EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529
- True RMS measurement
- On-site programmable for Primary & Secondary values
- Configuration Port
- Configuration Software - Freeware



RISH CON M

Parameters

Input	: Fixed Input - 100 or 400 VLL & 1A or 5A (Ratio Programmable)
Output**	: Current : 0...20 mA / 4...20 mA / -20...20 mA DC (Burden - 15V) Relay Outputs - up to 4x RS485 Modbus
	Output Combinations - Rish Con M40 - 4x Analog Outputs Rish Con M22 - 2x Analog & 2x Relay Outputs Rish Con M04 - 4x Relay Outputs
Ripple	: ≤ 0.4% pk-pk
Response Time	: <3sec
Measures	: V, A, Hz, KW, KVA, PF, KWH, KVAh, THD
Auxiliary	: 85...253VAC & 90...320 VDC or 20...40VAC & 20...60VDC
Accuracy	: Class 0.2 for V, A & Hz Class 0.5 for Power, PF & Phase Angle
Size (H x W x D)	: 66.5 x 122.5 x 106.5 mm
Mounting	: Din Rail - 35mm Standard & Option for Wall Mount

Additional Features

- Input frequency Range - 40...400 Hz
- Detection and signalling of incorrect phase sequence
- USB Port for configuration
- Alarm Indications

Note : ** For Non Standard requirements please contact nearest sales office.



RISH DUCER Mxx

Parameters

Input : 57VLN/ 100VLL...400VLN/693VLL (Onsite Programmable)
40...60 Hz
1...6A (Onsite programmable)

Output** : Current : 0...10/ 0...20 mA / 2...20mA / 4...20 mA DC
(Burden – 15V)
Voltage : 0...5V / 0...10V DC (Burden – 2 mA)

Output Combinations –

Rish Ducer M42 – 4x Analog + 2 Digital + RS232 Port
Rish Ducer M40 – 4x Analog + RS232 Port + RS485 Modbus
Rish Ducer M30 – 3x Analog + RS232 Port
Rish Ducer M24 – 2x Analog + 4 Digital + RS232 Port
Rish Ducer M20 – 2x Analog + RS232 Port
Rish Ducer M01 – RS232 Port + RS485 Modbus

Ripple : $\leq 1\%$ pk-pk

Response Time : 1...2 times the measurement cycle
(Duration of the measurement cycle : Approx. 0.25 to 0.5 s at 50 Hz, depending on measured variable & programming)

Measures** : V, A, Hz, KW, KVA, PF, Phase Angle, (KWH, KVAh, KVAH), Demand, Bimetallic Function

Auxiliary : 85...230VAC/DC or 24...60VAC/DC

Accuracy : Class 0.2 for V, A
Class 0.15 for Hz
Class 0.25 for Power

Size (H x W x D) : 150 x 87.5 x 124 mm

Mounting : Din Rail – 35mm Standard & Option for Wall

Current Transformer with inbuilt Transducer CT Ducer

- Compliance to IEC 60688, EMC : IEC 61326, Safety : IEC 61010
IP for water & dust : IEC 60529
- True RMS & Average options
- Combination of a current transformer and a transducer
- High output load resistance – up to 750 Ω
- Spring Clamp terminals for easy wiring
- Available in two sizes
- Mounting provisions – Wall or DIN Rail or Bus-bar mounting option



RISH CT DUCER

Parameters

Input : 50...750A AC(50 or 60 Hz)

Output** : Current : 0...20 mA / 4...20 mA DC

Ripple : $\leq 1\%$ pk-pk

Response Time : <600msec

Auxiliary : 24VDC

Accuracy : Class 0.5

Size : 70 x 30 mm

- Transformer : 70 (W) x 92 (H) x 44 (D) mm
- Bus bar : 30 x 10 mm
- Round conductor : 28 mm

90 x 40 mm

- Transformer : 90 (W) x 115 (H) x 58 (D) mm
- Bus bar : 30 x 10 mm
- Round conductor : 31.5 mm

Mounting : Wall or DIN Rail or Bus-bar mounting option

Note : ** For Non Standard requirements please contact nearest sales office.

DC Transducers & Signal Isolators

- Compliance to IEC 60770, EMC : IEC 61326, Safety : IEC 61010, IP for water & dust : IEC 60529
- User - specific input and / or output ranges
- Isolating amplifier with one input two electrically isolated outputs
- LED Indication



RISH DUCER TV 808

Parameters

Input**	: 0...0.06 to 0...40VDC 0...0.1 to 0...40mA DC
Output**	: Current: 0...20 mA / 4...20 mA / -20...20 mA DC (Burden - 12V) Voltage: 0...5V / 0...10V / 2...10V / -10...10V DC (Burden - 5mA)
Ripple	: ≤ 0.5% pk-pk
Response Time	: <50msec
Auxiliary	: 85...230V AC/DC or 24...60V AC/DC
Accuracy	: Limit error ± 0.2 % Including linearity and reproducibility errors
Size (H x W x D)	: 120 x 17.5 x 146.5 mm
Mounting	: Wall or DIN Rail mounting option

Additional Features

- 252 standard input and output combinations
- Available Combinations : 1x Input - 1x Output or 1x Input - 2x Output or 2x Input - 2x Output



RISH CON SI 10x 

Versions	: SI101 - 1x Input - 1x Output SI102 - 1x Input - 2x Output
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Parameters

Input**	: 0...10V, 2...10V, 1...5V DC 0...20mA, 4...20mA, 1...5mA DC
Output**	: Current: 0...20 mA / 4...20 mA DC (Burden - 12V) Voltage: 0...10V / 2...10V DC (Burden - 5mA)
Ripple	: ≤ 0.4% pk-pk
Response Time	: <50msec
Auxiliary	: 60...300 V AC/DC or 24...60V AC/DC
Accuracy	: Class 0.2
Size (H x W x D)	: 65.5 x 22.50 x 106.5 mm
Mounting	: Wall or DIN Rail mounting option



RISH PI 102

Parameters

Input**	: 0...12V, 0...10V, 0...5V, 1...5VDC 0...20mA, 0...10mA, 4...20mA, 0...24mA DC
Output**	: Current : 2...10mA/ 4...20mA/ 0...10mA/0...20mA ADC (Burden - 15V) Voltage : 0...5V/ 1...5V/ 0...10V/ 2...10V DC (Burden - 5mA)
Ripple	: ≤ 0.4% pk-pk
Response Time	: <50msec
Auxiliary	: 60...300V AC/DC or 20...40V AC & 20...60V DC
Accuracy	: Limit error ± 0.2 % Including linearity & reproducibility errors
Size (H x W x D)	: 110 x 53 x 60.5 mm
Mounting	: Wall or DIN Rail mounting option

Additional Features

- On site programmable Inputs and outputs via DIP switches



RISH CON TPT

Parameters

Input**	: Low Resistance Range – 0...3700 Ω High Resistance Range – 0...25000 Ω
Output**	: Current : 0/ 4...20mADC (Burden – 12V) Voltage : 0...5V/ 1...5V/ 0...10V/ 2...10V DC (Burden – 2mA)
Ripple	: $\leq 0.5\%$ pk-pk
Response Time	: <4s for Rish CON TPT (96 x 96 model only) <2s for Rish CON TPT (DIN Rail model only)
Auxiliary	: 60...300V AC/DC or 20...40V AC & 20...60V DC
Accuracy	: $\pm 0.2\%$ of range
Size (H x W x D)	: 65.5 x 43.75 x 106.5 mm (Din Rail mounting) 96 x 96 x 55 mm (Panel mounting)
Mounting	: Wall or DIN Rail mounting option

Additional Features

- Onsite programmable - TAP number (1-100 TAP) / input resistance range
- Tap position is displayed on front LED display
- 3,4 wire measurement to compensate lead resistance automatically
- MODBUS RS 485 communication (Applicable for 96 x 96 model only) - optional



RISH DUCER PT602

Parameters

Input	: Type Pt 100 (DIN IEC 751)
Output**	: Current: 0/ 4...20mADC (Burden – 10V) Voltage: 0...10V DC (Burden – 5mA)
Ripple	: $\leq 1.5\%$ pk-pk
Response Time	: <500msec
Auxiliary	: 85 ... 230V AC/DC or 24 ... 60V AC/DC
Accuracy	: Limit error $\pm 0.5\%$ Including linearity & reproducibility errors
Size (H x W x D)	: 120 x 17.5 x 146.5 mm
Mounting	: Wall or DIN Rail mounting option

Additional Features

- Measuring ranges configurable with DIP switches and potentiometer
- Red LED indication for open or short circuit



RISH DUCER V604

Parameters

Input	: $\pm 300\text{mV}$, $\pm 40\text{V}$, $\pm 12\text{mA}$, 50...100mA, 0...740 Ω / 0...5000 Ω , RTD & Thermocouple
Output**	: Current : 0/ 4...20mADC (Burden – 12V for 1st Output & 0.3V for 2nd Output) Voltage : 0...5V/ 1...5V/ 0...10V/ 2...10V DC (Burden – 20mA)
Ripple	: $\leq 1.5\%$ pk-pk
Response Time	: <1000msec
Auxiliary	: 85...230V AC/DC or 24...60V AC/DC
Accuracy	: Max. error $\leq \pm 0.2\%$ Including linearity and repeatability errors for current, voltage and resistance measurement
Size	: 120 x 17.5 x 146.5 mm
Mounting	: Wall or DIN Rail mounting option

Additional Features

- Onsite input Programmable
- Free Configuration Software for Programming

General Purpose Power Supply : Flex - e Series

- Universal Input Supply
- Protection mode : Hiccup
- High reliability and durability : MTBF > 5,00,000 hours
- Compliance to International Safety standards
- EMC Compatibility

Model No	Nominal Input Voltage	Output Voltage	Output Current	Power Range	Size (W x H x D)
Single Phase - Plastic Housing					
Rish Flex - e 1515A	115 V AC/ 230V AC	15 V DC	1 A	15 W	18 x 90 x 62 mm
Rish Flex - e 1512A	115 V AC/ 230V AC	12 V DC	1.25 A	15 W	18 x 90 x 62 mm
Rish Flex - e 1524A	115 V AC/ 230V AC	24 V DC	0.63 A	15 W	18 x 90 x 62 mm
Rish Flex - e 3012A	115 V AC/ 230V AC	12 V DC	3 A	36 W	54 x 90 x 62 mm
Rish Flex - e 3024A	115 V AC/ 230V AC	24 V DC	1.5 A	36 W	54 x 90 x 62 mm
Rish Flex - e 4512A	115 V AC/ 230V AC	12 V DC	3.75 A	45 W	54 x 90 x 62 mm
Rish Flex - e 4524A	115 V AC/ 230V AC	24 V DC	1.875 A	45 W	54 x 90 x 62 mm
Rish Flex - e 6012A	115 V AC/ 230V AC	12 V DC	5 A	60 W	54 x 90 x 62 mm
Rish Flex - e 6024A	115 V AC/ 230V AC	24 V DC	2.5 A	60 W	54 x 90 x 62 mm
Single Phase - Metal Housing					
Rish Flex - e 9024A	115 V AC/ 230V AC	24 V DC	5 A	95 to 120 W	55 x 110 x 105 mm
Rish Flex - e 17024A	115 V AC/ 230V AC	24 V DC	7.5 A	120 to 180 W	55 x 110 x 105 mm
Two Phase - Metal Housing					
Rish Flex - e 9024B	230V AC / 400V AC	24 V DC	4.5 A	95 to 120 W	55 x 110 x 105 mm
Rish Flex - e 17024B	230V AC / 400V AC	24 V DC	7.5 A	120 to 180 W	55 x 110 x 105 mm

Elite Class Power Supply - Flex Series

- Semi-resonant technology : Ensuring efficiency >91%
- Highly dynamic output power
- Protection modes : Hiccup, Continuous & Manual Reset
- Compliance to International Safety standards
- Power boost : 3x times the rated current
- High reliability and durability : MTBF - > 5,00,000 hours
- Compact size
- EMC Compatibility

Model No	Nominal Input Voltage	Output Voltage	Output Current	Power Range	Size (W x H x D)
Single Phase - Metal Housing					
Rish Flex 6005A	115 V AC/ 230V AC	5 V DC	5 A	up to 35 W	50 x 120 x 50 mm
Rish Flex 6012A	115 V AC/ 230V AC	12 V DC	6 A	36 to 72 W	50 x 120 x 50 mm
Rish Flex 6024A	115 V AC/ 230V AC	24 V DC	3 A	36 to 72 W	50 x 120 x 50 mm
Rish Flex 9024A	115 V AC/ 230V AC	24 V DC	5 A	95 to 120 W	55 x 110 x 105 mm
Rish Flex 17012A	115 V AC/ 230V AC	12 V DC	14 A	120 to 180 W	55 x 110 x 105 mm
Rish Flex 17024A	115 V AC/ 230V AC	24 V DC	7.5 A	120 to 180 W	55 x 110 x 105 mm
Rish Flex 17048A	115 V AC/ 230V AC	48 V DC	3.75 A	120 to 180 W	55 x 110 x 105 mm
Rish Flex 28012A	115 V AC/ 230V AC	12 V DC	16 A	240 to 336 W	72 x 115 x 135 mm
Rish Flex 28024A	115 V AC/ 230V AC	24 V DC	14 A	240 to 336 W	72 x 115 x 135 mm
Rish Flex 28048A	115 V AC/ 230V AC	48 V DC	7 A	240 to 345 W	72 x 115 x 135 mm
Rish Flex 50024A	115 V AC/ 230V AC	24 V DC	25 A	480 to 600 W	85 x 120 x 140 mm
Rish Flex 50048A	115 V AC/ 230V AC	48 V DC	12 A	480 to 600 W	85 x 120 x 140 mm

Two Phase - Metal Housing					
Rish Flex 9024B	230V/ 400V/ 500 V AC	24 V DC	5 A	96 to 120 W	55 x 110 x 105 mm
Rish Flex 17024B	230V/ 400V/ 500 V AC	24 V DC	7.5 A	120 to 180 W	55 x 110 x 105 mm
Rish Flex 28024B	230V/ 400V/ 500 V AC	24 V DC	14 A	240 to 336 W	72 x 115 x 135 mm
Three Phase - Metal Housing					
Rish Flex 50024B	400 - 500 V AC	24 V DC	25 A	480 to 600 W	85 x 120 x 140 mm
Rish PST 2430B	400 - 480 V AC	24 V DC	30 A	720 W	250 x 150 x 160 mm
Rish PST 2440B	400 - 480 V AC	24 V DC	40 A	960 W	250 x 150 x 160 mm
Redundancy Module					
Rish MR220	10 - 60 V DC	10 - 60 V DC	0 - 25 A (max)	----	50 x 120 x 50 mm



Plastic Housing Power Supply



Metal Housing Power Supply

BATTERY CHARGER

Elite Series

- Based on Switch mode technology
- High Efficiency up to 86%
- Simple and safe charging profile in three stages
- LED indication -
 - Power ON
 - Charge ON
 - Boost Mode
 - Charge Complete (Float Mode)
 - Reverse Polarity Connection
- Protections against - Short circuit, Overload, Over Voltage, Reverse, Polarity Connection, Over Temperature
- Cooling by free air convection
- Din Rail Mountable
- 3 years warranty
- High MTBF : > 5,00,000 Hrs
- Size : 55 X 110 X 105 mm

Model	Output Voltage (V)	Constant Current (A)	V Boost (V)	V Absorption (V)	V Float (V)	Recommended Battery Capacity (AH)
Rish Elite 3612A	12.00	2.60	14.40	14.20	13.50	9 - 30 Ah
Rish Elite 7212A	12.00	5.90	14.40	14.20	13.50	30 - 60 Ah
Rish Elite 12012A	12.00	9.60	14.40	14.20	13.50	30 - 100 Ah
Rish Elite 7224A	24.00	2.90	28.80	28.40	27.00	15 - 30 Ah
Rish Elite 12024A	24.00	4.80	28.80	28.40	27.00	15 - 50 Ah
Rish Elite 12030A	30.00	3.40	36.00	35.52	33.75	12 - 40 Ah

Basic Relays

- Reliable design with compact size
- LED indications for faults
- Limit settings using Presets on front side
- Polycarbonate Housing with UL94 V-0 grade
- Mounting over Din Rail – 35 mm



RISH RELAY - AR

Parameters

Input	: 1A or 5 A (1Φ or 3Φ)
Indications	: P.ON, OC, UC, UB
Response Time	: < 140 msecs
Fault Types	: Over Current, Under Current, Current Unbalance
Trip Points	: Adjustable by Presets on front (Unbalance Settings – Fixed)
Trip delays	: 0...10 Secs (adjustable for Over Current & Under current)
Accuracy	: ± 2% of Nominal value
Auxiliary	: 60...300V AC/DC
Protection	: IP20 (Front)
Size	: 53 x 110 x 60.5 mm



RISH RELAY - VR

Parameters

Input	: 63.5VLN/ 110VLL...138VLN/ 240VLL (3Φ) or 220VLN/ 381VLL...240VLN/ 415VLL (3Φ) or 240VLN/ 415VLL...277VLN/ 480VLL (3Φ) or 58VLN...138VLN (1Φ) or 220VLN...254VLN (Discrete value 1Φ)
Indications	: P.ON, UV/PF, OV, UB/NF, & Incorrect Phase Seq.
Response Time	: < 200 msecs
Fault Types	: Over Voltage, Under Voltage, Voltage Unbalance, Phase Failure, Neutral Failure, Incorrect Phase seq.
Trip Points	: Adjustable by Presets on front (Phase Failure & Unbalance Settings – Fixed)
Trip delays	: 0...10 Secs (adjustable for Over Voltage, Under Voltage & Unbalance) Instant trip for Neutral fail, Phase fail and Phase reversal)
Accuracy	: ± 3% of Nominal value
Auxiliary	: Self Powered
Protection	: IP20 (Front)
Size (H x W x D)	: 18 x 90 x 66.5 mm



RISH RELAY - PHR

Parameters

Input	: 110VLL / 240VLL / 415VLL / 440VLL (3Φ) – Fixed input on ordering System 3Φ 3W (values in VLL) and 3Φ 4W (values in VLN)
Indications	: P.ON, UB, PF
Response Time	: < 200 msecs
Fault Types	: Phase Unbalance, Phase Failure, Phase Incorrect Sequence
Trip Points	: Fixed
Trip delays	: Fixed
Accuracy	: ± 3% of Nominal value
Auxiliary	: Self Powered
Protection	: IP20 (Front)
Size (H x W x D)	: 53 x 110 x 60.5 mm

Programmable Digital Relays

- True RMS measurement
- Fully onsite programmable via push keys button & software
Trip relay cum DPM with Class 0.5
- Last 15th faults storage
- Dual colour LED for fault indication
- User selectable system type - 1 Φ or 3 Φ 3W/4W
- Onsite selection of Auto scroll / Fixed Screen
- USB Interface as mini USB
- Configuration Software - Freeware
- Click fit Arrangement (Panel Mount version only)
- Polycarbonate Housing with UL94 V-0 grade
- Programmable CT & PT, both Primary & Secondary ratio
- "AND" and "OR" Functions



RISH RELAY - I

Parameters

Input	: 1A or 5 A (1 Φ or 3 Φ)
Display	: 4 Digit LED Display
Fault Types	: Over current protection with IDMT curve, Under current protection, Current loss protection, Current unbalance protection
Trip Points	: Easy Programming using front Keys or USB port and Software
Trip delays	: Easy Programming using front Keys or USB port and Software
Accuracy	: $\pm 0.5\%$ of Nominal value
Auxiliary	: 60...300V AC/DC or 20...60 VDC & 20...40 VAC
Protection	: IP20 (Front)
Size (H x W x D)	: 53 x 110 x 60.5 mm



RISH RELAY - V

Parameters

Input	: 100VLL...600VLL
Display	: 4 Digit LED Display
Fault Types	: Over voltage protection, Under voltage protection, Single phasing protection Phase incorrect sequence protection
Trip Points	: Easy Programming using front Keys or USB port and Software
Trip delays	: Easy Programming using front Keys or USB port and Software
Accuracy	: $\pm 0.5\%$ of Nominal value
Auxiliary	: 60...300V AC/DC or 20...60 VDC & 20...40 VAC
Protection	: IP20 (Front)
Size	: 53 x 110 x 60.5 mm



**RISH RELAY - V/ Hz
(Line Monitoring)**

Parameters

Input	: 100VLL...600VLL
Display	: 4 Digit LED Display
Fault Types	: Over voltage protection, Under voltage protection, Single phasing protection Phase incorrect sequence protection, Phase unbalance protection Over frequency protection, Under frequency protection
Trip Points	: Easy Programming using front Keys or USB port and Software
Trip delays	: Easy Programming using front Keys or USB port and Software
Accuracy	: $\pm 0.5\%$ of Nominal value (for Voltage) $\pm 0.2\text{Hz}$ (for Frequency)
Auxiliary	: 60...300V AC/DC or 20...60 VDC & 20...40 VAC
Protection	: IP20 (Front)
Size	: 53 x 110 x 60.5 mm

Note : For approbation details kindly contact nearest sales office

Digital Earth Leakage Relays

- True RMS measurement
- Leakage current monitoring in 1 & 3 phase system
- CBCT Open Detection
- Multi Load Protection
- Fully onsite programmable via push button & software
- Polycarbonate Housing with UL94 V-0 grade
- Trip relay cum DPM with Class 0.5
- Last 15th faults storage
- Dual colour LED for fault indication
- USB Interface
- Configuration Software - Freeware
- Click fit Arrangement (Panel Mount version only)



RISH ELR VI



CBCT

Versions :

- RISH ELR - ELR with single CBCT input
- RISH ELR+ - ELR with two CBCT inputs
- RISH ELR VI - ELR with CBCT, current & voltage input (one each)

Parameters

Input	:	30 mA to 30A
Display	:	4 Digit LED Display
Fault Types	:	Over Current, Under Current, Over Voltage, Under Voltage, Earth Leakage Current Monitoring, Reverse Power Protection (ELR VI only) Neutral to earth Voltage (ELR VI only) protection
Trip Points	:	Easy Programming using front Keys or USB port and Software
Trip delays	:	Easy Programming using front Keys or USB port and Software
Accuracy	:	± 5% of Full Scale Nominal value (Leakage Current) ± 1% of nominal value (Voltage) ± 1% of nominal value (Input Current) ± 2% of nominal value (Power)
Auxiliary	:	60...300V AC/DC or 20...60 VDC & 20...40 VAC
Protection	:	IP20 (Front)
Size	:	DIN Rail Mount : 53 x 110 x 60.5 mm Panel Mount : 96 x 96 x 55 mm Round CBCT (OD x ID x Axial) RISH TWE - 73/30(50)- 73 x 30 x 50 mm RISH TWE - 95/50(40)- 95 x 50 x 40 mm RISH TWE - 135/85(30)- 135 x 85 x 30 mm RISH TWE - 165/130(30)- 165 x 130 x 30 mm Rectangular CBCT (L x H x W) RISH TWE - 260/200(22)- 260 x 200 x 22mm

90 degree Analog Panel Meters



RISH DE SWT

Exclusive Features

- UL 94 V-0 approved Glass Filled Polycarbonate casing with self extinguishing and non-drip material
- Available in four different case sizes(48, 72, 96, 144)
- Scales are Interchangeable
- Complete back protection cover supplied as standard accessory for user safety
- Mechanical Shock resistant spring, pivot and jewel movements are used
- AC meters are supplied with suppression scales
- Ease of installation with metallic clamps
- UL, CE and CSA approved
- Conformance to Standards
 - Performance : IEC 60051
 - Safety : IEC 61010

90 Deg Analog Panel Meters

APM Type	Nomenclature	DIN Sizes (mm)	Measured Parameters	Range of Measurement	Accuracy Class	Proof Voltage (kV)
Moving Iron Meters	DE	48, 72, 96, 144	AC Current & Voltage	100mA to 100A 6V to 750V	1.5	3
Moving Iron Meters with In-built Selector Switch	DE SWT	72, 96	3 Ph AC Current & Voltage	1A & 5A 100V to 600V	1.5	3
Moving Coil Meter	DS	48, 72, 96, 144	DC Current & Voltage	15μA to 40μA 50μA to 60μA 75μA to 100A 15mV to 40mV 50mV to 1000V	5 2.5 1.5 2.5 1.5	3
Moving Coil Meter with Rectifier	DG	48, 72, 96, 144	AC Current & Voltage	1mA to 10A 40V 50V to 60V 75V to 600V	1.5 5 2.5 1.5	2
Maximum Demand Ammeter	EB & BM	48*, 72, 96	AC Demand Current	1A & 5A	3	2
Frequency Meter	FM	48, 72, 96, 144	Frequency	45-50-55Hz, 55-60-65Hz, 45-55-65Hz, 360-400-440Hz, 380-400-420Hz Volt 57.7 to 500 V	0.5	2
Power Factor Meter	LF	72, 96, 144	Power Factor	cap 0.5...1...0.5 ind cap 0.8...1...0.8 ind cap 0.8...1...0.3 ind	1.5	2
Power Meter	LM	96, 144	Active and Reactive Power 1ph, 3ph bal and unbalanced load	57.7V to 500V and 1A, 5A with Lamda range 0.5 to 1.5	1.5	2

Note :

- For Power Factor (LF) Meters, Range cap 0.5...1...0.5 ind is available with both balanced & unbalanced load. But other two ranges, cap 0.8...1...0.8 ind and cap 0.8...1...0.3 ind are available with balanced load only.
- 1 Phase Power Factor (LF) meters are not possible in 72 size.
- Optional Accuracy Class 1
- * 48x48 size only applicable for BM Meters

Note : For approbation details kindly contact nearest sales office

240 degree Analog Panel Meters

Exclusive Features :

- UL94 V-0 approved Glass Filled Polycarbonate casing with self extinguishing and non-drip material
- Measurement with high resolution
- Available in four different case sizes (48, 72, 96, 144)
- Scales are Interchangeable
- Complete back protection cover supplied as standard accessory for user safety
- Shock resistant spring, pivot and jewel movements are used
- AC meters are supplied with suppression scales
- Ease of installation with metallic clamps



RISH FML

Conformance to Standards

- Performance : IEC 60051
- Safety : IEC 61010

240 Deg Analog Panel Meters

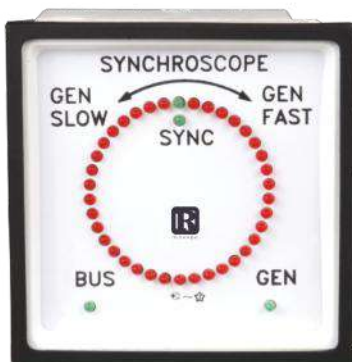
APM Type	Nomenclature	DIN Sizes (mm)	Measured Parameters	Range of Measurement	Accuracy Class	Proof Voltage (kV)
Moving Coil Meter	DSL	48, 72, 96, 144	DC Current & Voltage	50μA to 60μA 75μA to 60A 60mV to 600V	2.5 1.5 1.5	2
Moving Coil Meter with Rectifier	DGL	72, 96, 144	AC Current & Voltage	100mA to 10A 40V 50V to 60V 100V to 600V	1.5 5 2.5 1.5	2
Frequency Meter	FML	96, 144	Frequency	45-50-55Hz, 55-60-65Hz 45-55-65Hz, 360-400-440Hz 380-420-Hz	0.5	2
Power Factor Meter	LFL	96, 144	Power Factor	cap 0.5...1...0.5 ind cap 0.8...1...0.8 ind cap 0.8...1...0.3 ind	1.5	2
Power Meter	LML	96, 144	Active and Reactive Power 1ph, 3ph balanced and unbalanced load	57.7V to 500V and 1A, 5A with Lamda range 0.5 to 1.5	1.5	2

Note :

- In Moving Coil with Rectifier (DGL) meters, scales are non-linear for 100mA to 10A ranges
- For Power Factor (LF) Meters, Range cap 0.5...1...0.5 ind is available with both balanced & unbalanced load. But other two ranges, cap 0.8...1...0.8 ind and cap 0.8...1...0.3 ind are available with balanced load only.
- Optional Accuracy Class 1

Note : For approbation details kindly contact nearest sales office

Other types of Analog Panel Meters



RISH SQ

Exclusive Features :

- UL94 V-0 approved Glass Filled Polycarbonate casing with self extinguishing and non-drip feature
- Shock resistant spring, pivot and jewel movements are used
- AC meters are supplied with suppression scales
- Ease of installation with metallic clamps

Conformance to Standards

- Performance : IEC 60051
- Safety : IEC 61010

Other Analog Panel Meter

APM Type	Nomenclature	Sizes (mm)	Measured Parameters	Range of Measurement	Accuracy Class	Proof Voltage (kV)
2 in 1 meters	DE 2in1, DS 2in1, FM 2in1	96, 144	DC & AC Current & Voltage	same as DE, DS & FM meters	1.5	2
Elapsed Time Meters	ETM	72, 96	Run Hours	0.01 to 99999.99 Hrs, (100-4400)V Range	-	2
Synchroscope	SQ	96, 144	Frequency & Phase difference	100V to 500V	-	2
Vibrating Reed type Frequency Meter	FQ	72, 96	Frequency	45-50-55Hz, 55-60-65Hz, 45-55-65Hz	0.5	2
Anush series meters	AN 011	1.5 Inches	AC Current & Voltage	100mA to 60A & 6V to 600V	1.5	2
			DC Current & Voltage	50mA to 50A & 50mV to 600V	1.5	2
	AN 012	2.5 Inches	Frequency	45-50-55Hz, 45-55-65Hz	0.5	2
Vista series meters	RISH VISTA 212	2.5 Inches	AC Current & Voltage	100mA to 60A & 6V to 600V	1.5	2
	RISH VISTA 312	3.5 Inches	DC Current & Voltage	50mA to 50A & 50mV to 600V	1.5	2
	RISH VISTA 412	4.5 Inches	Frequency	45-50-55Hz, 45-55-65Hz	0.5	2

Taut Band Meters

High quality range of Switchboard instruments to meet your needs, complying with ANSI-C39.1 (1981) specification. It is available in 110mm square size 250° to measure all electrical quantities. All switchboard instruments in the series features rugged, friction free and shock resistant taut-band suspension element.

Special Features :

1. Taut Band suspension – Eliminates friction and protects against shock
2. Platform scale – No shadow on scale and readable, even from share angles
3. Easy to read linear scale and wide angle deflection
4. Provide terminal protection cover for safety

Coming Soon



Note : For approbation details kindly contact nearest sales office

- Wound Primary Current Transformer
- Square Type Current Transformer (RISH Xmer Series)
- Round Type Current Transformer (TW Series)
- Protection Class Current Transformer
- Split Core Current Transformer (RISH Xmer SC Series)
- TW-E Series Current Transformer
- 3 Phase Current Transformer
- Summation Current Transformer
- Resin Cast Current Transformer

Exclusive Features :

- Wide Range of system current ratings, bus bar sizes, case width and apertures
- Various mounting options like wall mounting, cable mounting, bus bar mounting, DIN rail mounting (Optional)
- Hinged & Wire sealable terminal covers

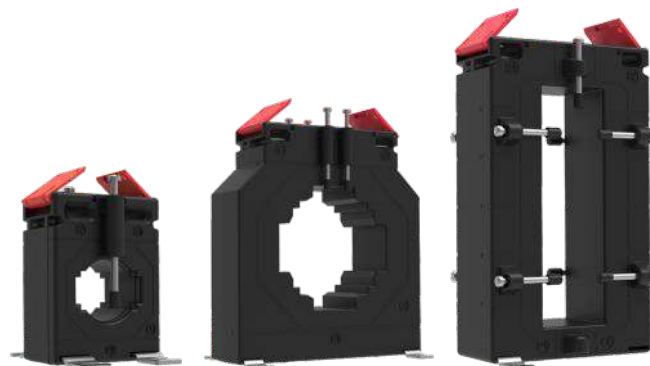
General Specification

Applicable standard	: IEC 61869-2, IEC/EN60044-1, BS 3938
Case	: Unfilled polycarbonate, flame retardant grades UL 94V-0
Connection	: Two connection on each side. M4 screw with self lifting clamp strap assembly for Xmer series, SC series, 3 in 1 series and one connection on each side M4 screws with self lifting clamp strap for Round & Resin Cast CT series.
Insulation	: Class E (120°C max)
System voltage	: 720V maximum
Test Voltage	
For Ring type CT	: 4kV 50/60Hz for 1 min (except for 50/30 CT type and 50/50 CT where test voltage is 3kV 50/60Hz for 1 min)
For Wound type	: 3kV 50/60Hz for 1 min
Operating frequency	: 50Hz or 60Hz Rated Primary rating: 1A to 7500A
Rated secondary output	: 5A standard (1A on request)
Rated burden	: 1, 1.25, 1.5, 2.5, 3.75, 5, 7.5, 10, 12.5, 15, 20, 30, 45, 60, 100VA
Class of accuracy	: 0.2, 0.2S for laboratory and power measurement 0.5, 0.5S for accurate measuring kWh 1 for general measurement 3 for indicating instrument
Operating temperature	: -20 Deg °C...+45 Deg °C
Storage temperature	: -50 Deg °C...+80 Deg °C
Thermal short circuit current (Ith)	: 40 x In for wound type CT and 60 x In for Bus bar type CT
Dynamic short circuit current (Idyn)	: 2.5 x Ith
Instrument security factor (FS)	: 2.5, 5, 10, 15, 20

Square type Metering Class Current Transformers

Exclusive Features :

- Wide range of system current ratings
- Hinged and wire sealable terminal cover
- Various types of mounting options are available like Din Rail mounting, Wall mounting, Busbar mounting etc.
- Dual secondary connection facility giving access from both sides of transformers
- Self lifting terminal clamps saves termination time
- UL94 V-0 approved Polycarbonate casing with self extinguishing and non-drip feature



Note : For approbation details kindly contact nearest sales office

Xmer Metering Class CT

CT Dimensions (mm)			CT Type	Primary current ratings	VA Ratings	Class of accuracy
ID	Busbar L	Busbar W				
-	-	-	RISH Xmer 62/W(40)	1A to 30A	1VA to 5VA	0.2, 0.5, 1
-	-	-	RISH Xmer 74/W(45)	1A to 60A	1.5VA to 10VA	0.2, 0.5, 1
14	-	-	RISH Xmer 45/14(40)	30A to 300A	1VA to 10VA	0.5, 1
21	21	10	RISH Xmer 45/21(40)	50A to 400A	1VA to 5VA	0.5, 1
14	-	-	RISH Xmer 50/14(30)	40A to 300A	1VA to 7.5VA	0.5, 1
21	20.5	10.5	RISH Xmer 50/21(30)	50A to 400A	1VA to 7.5VA	0.5, 1
26	30.5	10.5	RISH Xmer 50/30(30)	75A to 600A	1VA to 7.5VA	0.5, 1
14	-	-	RISH Xmer 50/14(50)	30A to 300A	1VA to 12.5VA	0.5, 1
21	20.5	10.5	RISH Xmer 50/21(50)	50A to 400A	1VA to 15VA	0.5, 1
26	30.5	10.5	RISH Xmer 50/30(50)	50A to 600A	1VA to 15VA	0.5, 1
22	-	-	RISH Xmer 62/R	50A to 600A	1.5VA to 15VA	0.2S, 0.2, 0.5S, 0.5, 1
-	20.5	12.5	RISH Xmer 62/20(40)	50A to 500A	1.5VA to 15VA	0.2S, 0.2, 0.5S, 0.5, 1
30.5	31 26	11 21	RISH Xmer 62/30(40)	50A to 800A	1VA to 15VA	0.2S, 0.2, 0.5S, 0.5, 1
31	40.5 31	11 21	RISH Xmer 62/40(40)	100A to 800A	1VA to 10VA	0.2S, 0.2, 0.5S, 0.5, 1
28	30	10.5	RISH Xmer 62/30(50)	50A to 800A	1.25VA to 30VA	0.2S, 0.2, 0.5S, 0.5, 1
20.4	21 15.5	11 15.5	RISH Xmer 74/20(45)	40A to 500A	1VA to 20VA	0.2S, 0.2, 0.5S, 0.5, 1
26	31 21	15 21	RISH Xmer 74/30(45)	40A to 800A	1.5VA to 30VA	0.2S, 0.2, 0.5S, 0.5, 1
35	41 31	12.5 31	RISH Xmer 74/40(45)	40A to 1000A	1VA to 20VA	0.2S, 0.2, 0.5S, 0.5, 1
41	51 41	12.5 21	RISH Xmer 74/50(45)	100A to 1000A	1.5VA to 15VA	0.2S, 0.2, 0.5S, 0.5, 1
36	41 31	11 31	RISH Xmer 86/40(45)	50A to 1000A	1.5VA to 30VA	0.2S, 0.2, 0.5S, 0.5, 1
46	51 41	12.5 31	RISH Xmer 86/50(45)	100A to 1250A	1VA to 30VA	0.2S, 0.2, 0.5S, 0.5, 1
51	61 51	12.5 31	RISH Xmer 86/60(45)	100A to 1600A	1VA to 30VA	0.2S, 0.2, 0.5S, 0.5, 1
54	61 51	12.5 31	RISH Xmer 104/60(45)	100A to 1600A	1VA to 45VA	0.2S, 0.2, 0.5S, 0.5, 1
65	81 61	12.5 31	RISH Xmer 104/80(45)	200A to 2000A	1.5VA to 30VA	0.2S, 0.2, 0.5S, 0.5, 1
73	81 61	31 51	RISH Xmer 140/80(45)	200A to 2000A	1.5VA to 60VA	0.2S, 0.2, 0.5S, 0.5, 1
-	101	56	RISH Xmer 130/100(50)	600A to 3000A	2.5VA to 15VA	0.2S, 0.2, 0.5S, 0.5, 1

CURRENT TRANSFORMER (CT)



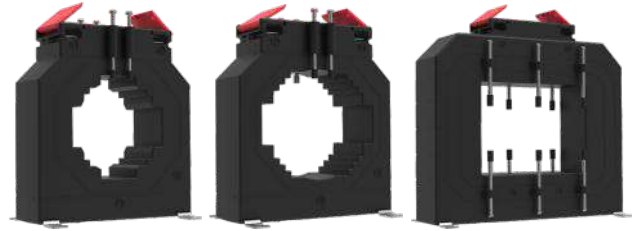
CT Dimensions (mm)			CT Type	Primary current ratings	VA Ratings	Class of accuracy
ID	Busbar L	Busbar W				
86	101	31	RISH Xmer 140/100H(45)	200A to 4000A	1.5VA to 60VA	0.2S, 0.2, 0.5S, 0.5, 1
	81	51				
	71	61				
86	31	101	RISH Xmer 140/100V(45)	200A to 3000A	1.5VA to 60VA	0.2S, 0.2, 0.5S, 0.5, 1
	51	81				
	61	71				
-	41	103	RISH Xmer 100/100V(45)	400A to 2500A	2.5VA to 30VA	0.2S, 0.2, 0.5S, 0.5, 1
-	38	128	RISH Xmer 100/130V(45)	400A to 3200A	2.5VA to 30VA	0.2, 0.5, 1
-	70	130	RISH Xmer 140/130V(45)	400A to 5000A	3.75VA to 20VA	0.2, 0.5, 1
	125	93	RISH Xmer 225/125(50)	600A to 6000A	5VA to 100VA	0.2S, 0.2, 0.5S, 0.5, 1
-	167	66	RISH Xmer 225/167(50)	1000A to 7500A	3.75VA to 45VA	0.2S, 0.2, 0.5S, 0.5, 1

Note : For approbation details kindly contact nearest sales office

Square type Protection Class Current Transformers

Exclusive Features :

- Wide range of system current ratings
- Hinged and wire sealable terminal cover
- Various types of mounting options are available like Din Rail mounting, Wall mounting, Busbar mounting etc.
- Dual secondary connection facility giving access from both sides of transformers.
- Self lifting terminal clamps saves termination time.
- UL94 V-0 approved Polycarbonate casing with self extinguishing and non-drip feature



Xmer Protection class CT

CT Dimensions (mm)			CT Type	Primary current ratings	VA Ratings	Class of accuracy
ID	Busbar L	Busbar W				
22	NA	NA	RISH Xmer 62/R	100A to 300A	1VA to 1.5VA	5P5, 10P5
-	20.5 15.5	12.5 15.5	RISH Xmer 62/20P(40)	100A to 200A	1VA	5P5, 10P5
20.4	21 15.5	11 15.5	RISH Xmer 74/20P(45)	200A to 400A	2.5VA	5P5, 10P5
35	41 31	12.5 31	RISH Xmer 74/40P(45)	120A to 750A	1VA to 2.5VA	5P5, 10P5
36	41 31	11 31	RISH Xmer 86/40P(45)	100A to 600A	1VA to 7.5VA	5P5, 10P5, 5P10, 10P10
46	51 41	12.5 31	RISH Xmer 86/50P(45)	100A to 800A	1.5VA to 7.5VA	5P5, 10P5, 5P10, 10P10
30	31 26	11 26	RISH Xmer 104/30P(45)	50A to 600A	1.5VA to 15VA	5P5, 10P5, 5P10, 10P10
41	51 41	12.5 31	RISH Xmer 104/50P(45)	150A to 1000A	1.5VA to 10VA	5P5, 10P5, 5P10, 10P10
54	61 51 41 31	12.5 31 41 51	RISH Xmer 104/60P(45)	100A to 800A	1.5VA to 10VA	5P5, 10P5, 5P10, 10P10
54	61 51 41 31	12.5 31 41 51	RISH Xmer 140/60P(45)	200A to 2000A	2.5VA to 20VA	5P5, 10P5, 5P10, 10P10
73	81 61	31 51	RISH Xmer 140/80P(45)	200A to 2500A	2.5VA to 20VA	5P5, 10P5, 5P10, 10P10
86	101 81 71	31 51 61	RISH Xmer 140/100P(45)	250A to 3000A	1VA to 10VA	5P5, 10P5, 5P10, 10P10
42.5	61	31	RISH Xmer 225/60P(50)	100A to 2000A	10VA to 15VA	5P5, 10P5, 5P10, 10P10
-	125	93	RISH Xmer 225/125P(50)	600A to 5000A	1.5VA to 20VA	5P5, 10P5, 5P10, 10P10
-	167	66	RISH Xmer 225/167P(50)	1000A to 6000A	2.5VA to 20VA	5P5, 10P5, 5P10, 10P10

Note : For approbation details kindly contact nearest sales office

Round type Metering Current Transformers

Exclusive Features :

- Wide range of system current ratings
- Transparent terminal cover (for TW series) provides IP-20 protection to terminals
- Various types of mounting options are available like Wall mounting, cable mounting, Busbar mounting etc.
- Self lifting terminal clamps (for TW series) saves termination time.
- UL94 V-0 approved Polycarbonate casing with self extinguishing and non-drip feature



TW series Metering CT

CT Dimensions (mm)			CT Type	Primary current ratings	VA Ratings	Class of accuracy
OD	ID	Axial/HT				
73	30	40	TW-1	50A to 200A	1.5VA to 10VA	0.5, 1
73	30	50	TW-2	50A to 200A	1.5VA to 15VA	0.2, 0.5S, 0.5, 1
92	43	41	TW-3	50A to 300A	1VA to 20VA	0.2, 0.5S, 0.5, 1
100	58	41	TW-4	120A to 600A	1VA to 25VA	0.2, 0.5S, 0.5, 1
110	72	41	TW-5	200A to 1000A	1.5VA to 30VA	0.2, 0.5S, 0.5, 1
159	113	40	TW-6	600A to 3200A	1.5VA to 45VA	0.2, 0.5S, 0.5, 1

TW-E series Metering CT



CT Dimensions (mm)			CT Type	Primary current ratings	VA Ratings	Class of accuracy
OD	ID	Axial/HT				
73	30	50	TW-E 73/30(50)	50A to 200A	5VA to 15VA	0.5, 1, 5
80	30	100	TW-E 80/30(100)	100A to 150A	5VA to 15VA	0.5, 1
92	43	41	TW-E 92/43(41)	200A to 400A	5VA to 15VA	0.5, 1
95	50	40	TW-E 95/50(40)	200A to 300A	5VA to 15VA	0.5, 1
100	58	41	TW-E 100/58(41)	400A to 600A	5VA to 15VA	0.5, 1
110	72	41	TW-E 110/72(41)	800A to 1000A	5VA to 15VA	0.5, 1
135	85	30	TW-E 135/85(30)	800A to 1200A	5VA to 15VA	0.5, 1
159	113	40	TW-E 159/113(40)	1200A to 2000A	5VA to 15VA	0.5, 1
165	130	30	TW-E 165/130(30)	2400A to 3000A	5VA to 15VA	0.5, 1
190	150	40	TW-E 190/150(40)	3200A	5VA to 15VA	0.5, 1
235	200	35	TW-E 235/200(35)	4000A to 5000A	15VA	1

3 in 1 type Metering Current Transformers (3 in 1, Nano 3 in 1 CTs with RJ 12 Connection)

3 in 1 series Metering CT



Exclusive Features :

- Wide range of system current ratings
- Compact Size, saves space in the panel with good aesthetics
- Hinged and wire sealable terminal cover
- Mounting options available like DIN Rail mounting (Optional) Wall mounting, Busbar mounting etc.
- Dual secondary connection facility giving access from both sides of transformers.
- Self lifting terminal clamps saves termination time.
- UL94 V-0 approved Polycarbonate casing with self extinguishing and non-drip feature



3 in 1 Series Metering CT

CT Dimensions (mm)			CT Type	Primary current ratings	VA Ratings	Class of accuracy
OD	ID	Axial/HT				
-	14.5	24.5	RISH Xmer 3PH 75-15(60)	100A to 160A	1VA to 2.5VA	0.5, 1, 3
-	20.5	24.5	RISH Xmer 3PH 105-21(40)	100A to 250A	1VA to 2.5VA	0.5, 1, 3
-	31	36	RISH Xmer 3PH 140-31(40)	250A to 500A	1.5VA to 3.75VA	0.5, 1, 3
27	-	-	RISH Xmer 3PH 185-27(45)	40A to 500A	1.25VA to 5VA	1, 3
37	-	-	RISH Xmer 3PH 185-37(45)	300A to 800A	2.5VA to 5VA	1, 3

Rish Nano 3 in 1 Metering CT

Exclusive Features :

- Compact Size, saves space in the panel with good aesthetics
- Easy and safe electrical connection
- High Electric isolation between primary conductor and output
- Output 100mA AC, cable length 2 m (63A, 125A & 250A)
- It can be used in Circuit Breaker Panel



CT Dimensions (mm)		CT Type	Primary current ratings	VA Ratings	Class of accuracy
ID					
8		X306 : 125A	63A	0.1VA	0.5
15		X307 : 250A	125A	0.1VA	0.5
26		X308 : 63A	250A	0.1VA	0.5

Rish 3 in 1 RJ 12 series Metering CT

Exclusive Features :

- Compact Size, saves space in the panel with good aesthetics
- Transmission of measuring signal to the measuring unit via RJ12 connection cable
- Secondary wires with RJ12 socket provides fast connection and eliminate wiring errors. Various types of mounting options are available like Din Rail mounting, Wall mounting, Busbar mounting etc.
- Secondary current of 100mA, 2m standard RJ12 cable length
- It can also be used in Circuit Breaker Panel

CT Dimensions (mm)			CT Type	Primary current ratings	VA Ratings	Class of accuracy
ID	Busbar L	Busbar W				
-	15.3	27	RISH RJ 12-75	60A to 160A	0.25VA	1
-	22	25	RISH RJ 12-105	60A to 250A	0.25VA to 0.5VA	1
-	31	31	RISH RJ 12-140	250A to 630A	0.25VA	1
-	50.2	54	RISH RJ 12-215	750A to 800A	0.5VA	1
8	-	-	RISH RJ 12-65 : 63A	63A	0.1VA	0.5
15	-	-	RISH RJ 12-90 : 125A	125A	0.1VA	0.5
26	-	-	RISH RJ 12-116 : 250A	250A	0.1VA	0.5

Note : For approbation details kindly contact nearest sales office

CURRENT TRANSFORMER (CT)



Split Core type Metering Current Transformers

Split Core series Metering CT

Exclusive Features :

- Wide range of system current ratings
- No need to open the busbar or cable for CT installation, drastically save the termination time
- Hinged and wire sealable terminal cover
- Various types of mounting options are available like Wall mounting, Busbar mounting etc.
- Dual secondary connection facility giving access from both sides of transformers.
- Self lifting terminal clamps saves termination time.
- UL94 V-0 approved Polycarbonate casing with self extinguishing and non-drip feature



CT Dimensions (mm)			CT Type	Primary current ratings	VA Ratings	Class of accuracy
ID	Busbar L	Busbar W				
23	23	33	RISH Xmer 93/30SC(40)	100A to 400A	1.5VA TO 10VA	0.5, 1, 3
43	43	55	RISH Xmer 105/50SC(50)	100A to 800A	1.5VA to 12.5VA	0.5, 1
52	52	82	RISH Xmer 125/50SC(40)	250A to 2000A	1VA to 15VA	0.5, 1
82	82	122	RISH Xmer 155/80SC(40)	250A to 3000A	1.5VA to 45VA	0.5, 1
82	82	162	RISH Xmer 195/80SC(64)	500A to 5000A	1.25VA to 45VA	0.5, 1

Rish Compact Split Core Metering CT



Exclusive Features :

- Compact Size, saves space in the panel with good aesthetics
- Hinged Split core and Swing open for ease of installation
- Cable tie provision for faster installation
- Safety Plug in shorting link
- Assured core contact with latching type snap fitment

CT Dimensions (mm)	CT Type	Primary current ratings	VA Ratings	Class of accuracy
ID				
18.5	Compact Split CT 36-18	60A to 100A	0.2	3
18.5	Compact Split CT 50-18	100A to 250A	0.2VA to 1VA	1, 3
32.5	Compact Split CT 50-32	200A to 500A	0.2VA	1, 3

Note : For approbation details kindly contact nearest sales office

Resin Cast Current Transformers

Exclusive Features :

- Wide range of system current ratings
- Transparent terminal cover provides IP-20 protection to terminals
- Metallic foot mounting option is possible
- Self lifting terminal clamps saves termination time.
- Compact Size



Resin Cast series Metering CT

OD	ID	Axial/HT	CT Type	Primary current ratings	VA Ratings	Class of accuracy
80	30	50	LTRC-1 80/30(50)	60A to 160A	1.5VA to 5VA	0.5, 1
90	50	40	LTRC-2 90/50(40)	200A to 320A	3.75VA to 10VA	0.5, 1
110	72	40	LTRC-3 110/72(40)	400A to 630A	5VA to 15VA	0.5, 1
135	85	40	LTRC-4 135/85(40)	800A to 1250A	15VA	0.5, 1
165	115	40	LTRC-5 165/115(40)	1500A to 2000A	15VA	0.5, 1
195	130	40	LTRC-6 195/130(40)	2500A to 3200A	15VA	0.5, 1
230	165	40	LTRC-7 230/165(40)	3000A to 3200A	15VA	0.5, 1
295	200	40	LTRC-8 295/200(40)	4000A to 5000A	15VA	0.5, 1

Resin Cast series Protection CT

OD / ID (Axial) mm			CT Type	Primary current ratings	VA Ratings	Class of accuracy
OD	ID	Axial/HT				
80	30	50	LTRC-1 80/30(50)	100A to 160A	1VA to 1.5VA	5P5, 5P10
90	50	40	LTRC-2 90/50(40)	200A to 320A	1VA to 2.5VA	5P5, 5P10
110	72	40	LTRC-3 110/72(40)	400A to 630A	1VA to 1.75VA	5P5
135	85	40	LTRC-4 135/85(40)	800A to 1250A	1.75VA to 5VA	5P5, 5P10
165	115	40	LTRC-5 165/115(40)	1250A to 2000A	1.75VA to 6.25VA	5P5, 5P10
195	130	40	LTRC-6 195/130(40)	2500A to 3200A	3.75VA to 7.5VA	5P10
230	165	40	LTRC-7 230/165(40)	3000A to 3200A	3.75VA to 5VA	5P10
295	200	40	LTRC-8 295/200(40)	4000A to 5000A	10VA to 20VA	5P10

Note :

- For higher accuracy class Resin Cast CTs, pls contact nearest sales office

Note : For approbation details kindly contact nearest sales office

CURRENT TRANSFORMER (CT)



Summation Current Transformer

Key Features :

- Terminal Protection IP10
- ISF 5, 10
- VA-5 to 25 VA
- Self Lifting Terminal Clamps



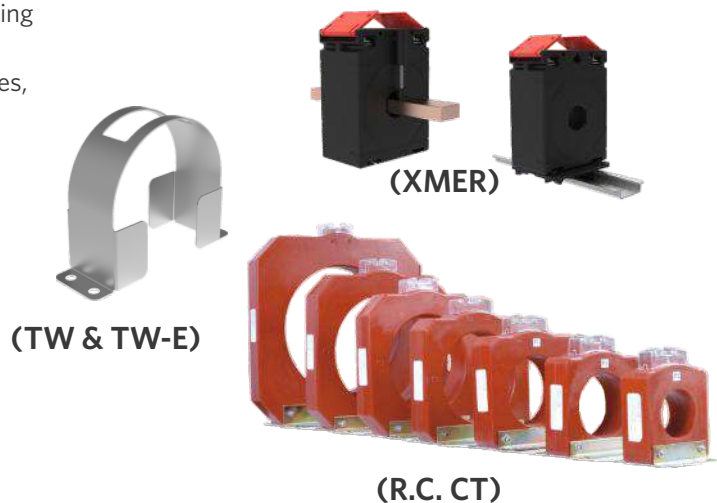
(Summation CT)

Summation CT

Outer Dimension mm	CT Type	Primary current ratings	VA Ratings	Class of accuracy
75mm	RISH Xmer Sigma 75	5+5A to 5+5+5+5A	5VA to 25VA	0.5, 1
150mm	RISH Xmer Sigma 150	5+5+5+5+5A to 5+5+5+5+5+5+5+5A	5VA to 25VA	0.5, 1

Mounting Options for Rishabh Cts

- Shown mounting options is applicable for Resin Cast Metering Series
- Shown mounting options are applicable for Rish XMER Series, Rish XMER Protection Class Series, Rish 3-in-1 Series, Split Core Series (Only Bus Bar Mounting & Wall Mounting applicable)
- Shown mounting options are applicable for Rish TW Series, Rish TW-E Series



Note : For approbation details kindly contact nearest sales office

Exclusive Features :

- Superior finish
- High Accuracy Class - 0.2 and 0.5
- Isolating Base for lower current rating Shunts (up to 30A primary)
- UL and CE approval
- Primary Current ratings available from 1A to 15000A
- Available secondary with 60mV and 150mV according to DIN 43703
- Available secondary with 50mV, 75mV and 100mV as non-standard option



Specifications :

Accuracy Class	0.2 and 0.5
5 Seconds withstand	10 times for 1A to 500A 5 times for 600A to 2000A 2 times for 2500A to 15000A
Shunt Dimensions	According to DIN 43703
Test Voltage with an Isolating Base	5 kV
Resistance of connection wires from Shunt to meter	35 mΩ or 75Ω (wires are not delivered with Shunts)
Continuous overload	20% of rated current
Temperature Co-efficient	0.002% per °C
Ambient Temperature	Calibration at 23°C
Operating Temperature	-10°C to 55°C
Storage Temperature	-20°C to 70°C
Millivolt Outputs	50mV, 60mV, 75mV, 100mV and 150mV

Note : For approbation details kindly contact nearest sales office

Types

- Isolator switches
- Changeover Switches
- Multi Step Switches
- Instrument Switches
- Breaker control (TNC) Switches
- Spring return Switches
- Reverse forward Switches

Exclusive Features :

- Complete range of cam switches for control, instrumentation and motor starting applications
- Quick and easy installation
- Compact size
- Multi pole design
- Long distance visibility
- Touch-proof terminals with IP20 protection
- Available in different colors e.g. Red & Yellow, Grey & Black

General Specifications

Isolator Switches

- 1 pole to 12 poles
- Available Current Ratings : 6A to 200A
- Application : To isolate particular area of operation and switching of electrical circuits or equipments
- Angle of rotation : 45°, 60°, 90° & 90° with complete rotation



Changeover Switches

- 1 pole to 6 poles, 2 way & 3 ways
- Available Current Ratings : 6A to 200A
- Application : To change particular area of the operation and for switching between circuits
- Angle of rotation : 60° & 90°, 90° without off



Multistep Switches

- 1 pole to 4 poles, 3 ways to 12 ways
- Available Current Ratings : 6A to 200A
- Application : To connect the different circuits in common supply or vice-versa
- Angle of rotation : 30°, 45°, 60° & 90°



Instrument Switches

- Ammeter & Voltmeter Selector Switches
- Available Current Ratings : 6A, 10A & 16A, 20A
- Application : To measure the current in the circuit or the voltage across the circuit
- Angle of rotation : 45° & 90°



Breaker control (TNC) Switches

- Contact Type : 1 NO-1 NC & 2 NO-2NC
- Available Current Ratings : 25A and 32A
- Application : To close or trip the circuit breaker manually generally for maintenance purpose
- Angle of rotation 60°



Note : For approbation details kindly contact nearest sales office

Spring return Switches

- On-Off & double throw spring return switches
- Available current Ratings : 16A & 25A
- Application : To make and break or changeover the circuit with spring return mechanism
- Angle of rotation : 60° & 90°



Reverse Forward Switches

- 2 Pole & 3 Pole
- Available Current Ratings : 25A, 32A, 40A & 63A
- Application : To operate the motor in reverse & forward direction
- Angle of rotation : 45° & 60°



Note : For approbation details kindly contact nearest sales office

Exclusive Features :

- Enhanced protection with Automatic terminal blocking system (ABS)
- Assured reliability with 3 years warranty
- Drop proof operation with protective rubber holster
- Designed in a way that allows one-man operation
- Voltage measurement upto 1000V AC/DC & current upto 10 A AC/DC
- Complies to IEC61326, IEC61010-1, CE, IP 50



General purpose Multimeters

Rishabh iYoung/Rish Max 10/Rishabh 410

- Basic accuracy of 0.5% in Rish Max 10 & Rishabh 410, 1% in Rishabh iYoung
- 3³/₄ digits & 3999 counts
- Rishabh iYoung comes with contactless voltage detection feature
- Available with CAT II 1000V, CAT III 600V protection



Professional Multimeters

Rish Multi Series (12S/13S/14S/15S/16S)

Rishabh 6k series (612/613/615/616)

- Basic accuracy of 0.25% in 12S to 15S, 0.1% in 16S
- Basic accuracy of 0.4% in Rishabh 6k Series
- Available in 3100 counts in Multi series and 6600 counts in 6k series
- TRMS Measurement in Rish Multi 16S & Rishabh 616
- Auto/Manual range selection
- Dual Display Facility in 61 series multimeter
- Supplied with accredited test certificates
- CAT IV 600V / CAT III - 1000V protection
- UL compliance in Rishabh 6k series
- CSA compliance in Rish Multi Series
- 16A current measurement in Rish Multi 13S & 613
- Along with external Clip ON CT measures upto 300A in 12S & 660A in 612

High-End Multimeters

Rishabh 60k series (6012/6013/6015/6016)

Rish Multi Series (18S/20)

- 31,000 counts in Rish Multi 18S & 3,10,000 counts in Rish Multi 20
- Basic accuracy of 0.05% Multi 18S & 60k series, 0.02% in Rish Multi 20
- Supports J, K, Pt100 & Pt1000 type sensors for Temperature measurement
- 60,000 counts True RMS measurement with high crest factors (60k series)
- 32,000 readings can be logged in meter with Real time stamp (only 6015/16)
- Optional facility of PC connectivity via a plug and play USB cable
- Optional facility to connect Mobile & PC via Bluetooth
- High bandwidth upto 100kHz for high frequency applications (only 6016)
- Facility of Square wave output with selectable duty frequency & duty cycle (only 6015/16)
- Selectable clamp ratio for current measurement upto 6000A
- For measurement at VFD drives, special 1kHz LPF function is provided
- For operation on Mains, optional power supply adapter
- Pass/fail with fully programmable GO-NO-GO

Note :

1. First three features are applicable for Models 18S & Multi 20. For more details, refer respective datasheet.
2. Multi 18S, Multi 20 & 6012 only support PT100 & PT1000 type sensors for temperature measurement. 6013 supports only J & K type.



Note : For approbation details kindly contact nearest sales office

Exclusive Features :

- Patented rotating-jaw design
- Jaw can be rotated to take measurements in places difficult to access
- For easier and safe operation, jaw opening lever placed at the rear side
- Robust mould casing with rubber edges for strong grip
- Digital as well as analog display, Auto power off facility
- Jaw size of 41 mm for clamp meters with current measurement upto 300/400A & 51 mm for clamp meters with current measurement upto 1000A
- Upto 1000V AC/DC Voltage measurement
- Complies to IEC61326, IEC61010-1, CE, IP 50

PATENTED



General Purpose Clamp Meters :

Rish Clamp ES 1000/400 AC

- Contactless voltage detection
- Current measurement upto 400A AC in Rish clamp ES 400AC & upto 1000A in Rish Clamp ES 1000 AC
- Category protection upto CAT II 1000V & CAT III 600V

Professional Clamp Meters :

Rish Clamp 300/1000A AC,

Rish Clamp 300/1000A AC/DC TRMS

- Current measurement upto 300A AC in Rish Clamp 300A AC & upto 1000A AC in Rish Clamp 1000A AC
- Category protection upto CAT III 1000V & CAT IV 600V
- Current measurement upto 300A AC/DC in Rish clamp 300A AC/DC & Upto 1000A AC/DC in Rish Clamp 1000A AC/DC
- TRMS measurement in Rish Clamp 300/1000A AC/DC
- Rish Clamp 300/1000 A AC/DC suitable for VFD drives
- UL certified



High-End Clamp Meters:

Rish Clamp Power 400/1000A AC/DC TRMS

- TRMS measurement
- Power Measurement in 1ph/2w, 3ph/3w & 3ph/4w balanced and unbalanced systems
- Measurement of power parameters like Active, Reactive, Apparent Power
- Facility to measure motor HP directly
- Harmonics measurement upto 49th order & THD
- Energy measurement in single phase and balanced three phase system
- For measurement at VFD drives, special LPF function is provided
- Contactless voltage detection facility
- Category protection upto CAT III 1000V & CAT IV 600V



External CT Accessory

Rish Clip ON CT 1000/1A, 1000/5A, 300/0.3A

- Minimum transformation ratio error
- Transformer ratio of 200 : 1 in Rish Clip on CT 1000/5A and 1000 : 1 in Rish Clip on CT 1000/1A & 300/0.3A
- Compact and Handy design
- Class 1 accuracy
- 43 & 35 mm jaw opening/conductor diameter
- Protection of CAT III 600V



Note : For approbation details kindly contact nearest sales office

Exclusive Features :

- Selectable test voltages upto 5000V
- 1T Ω Wide insulation resistance range
- Facility to discharge capacitive circuits automatically
- Facility to operate on Mains, Battery and Hand crank

LT 1kV Insulation Testers :

Rish Insu20 & Rish Mit 30

Rish Insu20

- Test Voltage selection options as 50V/100V/250V/500V/1000V
- Short Circuit current < 2mA
- Insulation Resistance measurement range from 10 k Ω upto 2 G Ω
- Detection of Live Circuit > 25V irrespective of function selected
- Low Resistance measurement 0.01 Ω to 99.9 Ω
- 25V to 600V AC/DC Voltage Measurement
- Automatic Discharge of Capacitive circuits after Test performed
- Option to pre-select the measurement time for Insulation Resistance
- Continuity Testing with Programmable Threshold Resistance
- Stop Watch function, Blown Fuse Indication
- Complies to IP 50, CAT II 600V, CAT III 300V



Rish Mit 30

- Rish Mit 30 is Multimeter with insulation resistance measurement upto 3 G Ω and multimeter functions
- Selection of Test Voltages from 50V, 100V, 250V, 500V and 1000V
- It measures Voltage (AC/DC), Current in milli-amperes, Capacitance, Resistance, Continuity, Diode, AC current via external clip on sensor
- Complies to IP50, CAT II 1000V, CAT III 600V as per International SafetyStandard IEC 61010-1-2001



HT 5kV Insulation Testers

Rish Insu 5000 A/AK/AKM/AKMR

- Test Voltage selection options 100V/250V/500V/1000V/1500V/2000V/2500V/5000V
- Test current is equal to 1mA at Test Voltage 100V, 250V, 500V & 1000V
- Measurement range from 10k Ω to 1T Ω
- 2000V AC/DC Voltage measurement
- Provided with Guard Terminal for removing surface leakage current
- Powered using Re-chargeable Battery/Hand Crank Operation/Mains
- Electrical Safety : Protection class II, IP 52, IEC 61557, CAT II 2000 V
- Automatic Discharge of Capacitive circuits after test performed
- Applications : Insulation Measurement for Cables, motors, etc.



5kV/10kV Digital Insulation Tester (Coming Soon)

- Ideal for testing in live Switchyards
- Insulation resistance measurement upto 10T Ω in 5kV & 20T Ω in 10kV
- Short circuit current upto 7 mA
- PI, DAR, DD, Step Voltage & Ramp Test
- Touch Screen TFT Display with graph facility
- Audio read-out of readings
- Bluetooth & USB connectivity for Data-logging
- Mains & Rechargeable battery operation





"Product upgradation is a continuous process. Hence, data in this catalog is subject to change without prior notice. For the latest information, please get in touch with our Sales Offices."

RISHABH INSTRUMENTS PVT. LTD.

Head office: F-31, MIDC, Satpur, Nashik - 422007, India | **Regd. office:** A-54, MIDC, Andheri (E), Mumbai - 400 093, India
+91 253 2202004/006/008 | global@rishabh.co.in | www.rishabh.co.in