



## ANALOG



## TMI



## DIGITAL





# DIGITAL EXPERTISE

## COMPACT VAF METERS

NEW

Direct Current I/P



RISH CD30 / CD 60



RISH CR12

- On-site Progra. PT Primary & Secondary - RISH CD30 / CD60
- On-site Progra. CT/PT Primary & Secondary - RISH CR12
- System type (1PH / 3PH3W / 3PH4W) - RISH CR12
- Measures 1/3 Phase Voltage, Current, Frequency,
- Min-Max system Voltage & Current, RPM Measurement.
- Remote settings & monitoring through RS485
- % THD Measurement.
- Size: 48mm X 48mm.
- Direct Current Measurement upto 30/60A (2 models).
- Applicable Standards - EMC : IEC 61326, Safety : IEC 61010
- IP for Water & Dust : IEC 60529
- RS485 MODBUS + 1 Relay output - (Optional)

## MULTIFUNCTION METERS (DELTA)



RISH OPTIMA - VAF



RISH DELTA ENERGY

- Measurement of basic electrical parameters, i.e V / A / F in a 1PH / 3PH system
- Field programmable system & CT / PT ratio
- Wide Aux: 40-300V AC/DC
- Measurement & display of RPM, ON HR, RUN HR, No. of interruptions
- True RMS measurement up to the 15th Harmonic.
- Storage of minimum/maximum System values
- Quick and easy installation with click fit arrangements
- Limit Switch plug-in module (Optional)
- RS 485 MODBUS communication (optional)

## POWER METERS ( MFM)



- LED Power Meters: RM 3430, RM 3440
- LCD Touch screen Meters: RM 3430i, RM 3440i, RM 3440i DL, Rish DMCI
- Accuracy Class: 0.2
- Fully programmable CT/PT Ratio & System type (3PH 3W or 3PH 4W)
- Wide Aux: 60-300V ACDC or 12-60V ACDC
- TRMS Measurement upto 15th Harmonic
- Measurement of 45+ Electrical parameters in 3PH Network.
- RS485 MODBUS output or ETHERNET Output (Optional)
- Pulse Output & Analog Output (Optional)

## ENERGY METERS (EM)



RISH EM 1320



RISH EM 1340

- Measures & displays Active (kWh), Reactive (kVArh), Apparent energy (kVAh), THD per Phase, Power, etc.
- Independent Accountant of Import and Export Energy.
- Field programmable system configuration 3PH4W, / 3PH3W / 1PH2W
- Field programmable CT/PT ratios
- Wide Aux: 60-300V AC/DC
- Ease of Remote Configuration via MODBUS
- Accuracy according to IEC 62053-21, IEC62053-23
- Modbus output plug-in modules (optional).
- Impulse LED on front for Energy calibration

## DIGITAL EXPERTISE

### LM 1340 - POWER METER

NEW



LM 1340

- Performance Standard Compliance IEC 61557-12
- Onsite Firmware upgradation
- Onsite Programmable CT/PT & System (Network) type
- Digital O/p (Limit) - Configurable for 3 Logical combination
- Multi Tariff Facility (2 Tariff) - using Digital Input
- Prepaid Cost Based tripping for configured Energy.
- RS 485 MODBUS communication (Optional)
- Configurable 2 Digital I/p & 2 Digital O/p - (Optional)

### MULTI LOAD MANAGER (LM/ML)



RISH ML1410



RISH LM1360



Wireless GSM communication

- Field programmable CT / PT ratio & system
- % LOAD Graph & Phase Rotation symbol
- 8 MB built-in Flash MEMORY for Data Logging
- Residual Current Monitoring (ML 1410)
- Accuracy of Active Energy 0.2s (IEC 62053-22)
- Monitoring of 12x 1PH or 4x 3PH Loads simultaneously (ML 1410)
- Measurement of THD & Individual Harmonics up to 31st order
- Wide Aux: 100-550V AC/DC
- External CT connections via RJ 12 connector (with 2 MTR Cable)
- Parameter display screens assignable by the user upto 10 nos.
- Load profile / Time / Event based data logging (Optional)
- Relay output :Limit(Alarm) for Pulse or RTC or Timer (Optional)
- Communication RS 485 MODBUS / GSM / ETHERNET (Optional)

### POWER QUALITY (PQM / 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 V & I (IEC 61000-4-7)
- Energy as per IEC 62053 Class 0.2s
- In-built data logging in 8GB SD card
- Trend Analysis & Event loggings
- User Interface with RS485 Modbus & USB port
- Harmonic grouping & sub-grouping
- Voltage Swell, Sag (Dip) and Interruption Detection
- Unbalance Detection & Measurements

### DIN MOUNTED POWER METERS

NEW

(MID APPROVED)



- True RMS measurement @ Sampling rate of 128 / Cycle
- Active Energy accuracy 0.2s, as per 62053-22
- 2 Digital Inputs Configurable as Contact Status Monitoring /
- Pulse Counting / Tariff based kWh Accumulation
- THD and Individual Harmonics Measurement upto 31st Order.
- Pre-Paid Cost Based Energy Tripping
- Health Monitoring of 3PH Load with indication.
- 6 Energy sources configurable for tariff based energy
- User Assignable Screens (Easy & fast access to Imp parameters)
- RS 485 MODBUS Communication (Optional)
- Onsite Configurable Relay Outputs (Optional)



## DC ENERGY METERS



Rish EM DC 6000

- A single meter for four Independent loads.
- Available in Single & Multi channel types.
- 2 Way V & I Measurement (Charging & Discharging)
- Voltage channel Galvanically Isolated from rest of the circuits
- Tracing of 5 previous events with Date & Time stamp
- Load profile analysis for effective behavior tracking
- User configurable data logging with date & time stamp on the internal memory
- Reverse lockout with alarm for Reverse Power and Current.
- USB, RTC and Data logging (optional)

## POWER FACTOR CONTROLLERS (PFC)



RISH PFC 12



RISH PFC 08L

- Automatic detection of the number of connected capacitors (counting of the capacitor bank)
  - Automatic detection of the kVAr value of the capacitor.
  - Automatic Phase Correction Angle detection
  - Easy programming of capacitors with 3 options.
  - Programmable PFC parameters such as Target PF, number of banks, kVAr value of the bank, etc.
  - Individual Harmonic up to 31st order for V & I
  - Warning of Over Temperature, Low battery (if using RTC), Capacitor status
  - Sequential shutdown of Capacitor Banks ensures Capacitor health & life
  - RS 485 MODBUS communication (optional)
- Available in 4/6/8 relay stages - RISH PFC08- 96 mm x 96 mm  
Available in 6/8/12 relay stages - RISH PFC12 - 144 mm x 144 mm

## POWER SUPPLY (FLEX)



- Semi-resonant Technology: ensuring efficiency > 91%
- Highly Dynamic Power Output
- Protection modes: Hiccup, Continuous and Manual Reset
- Power Boost: 3 Times of rated current
- High reliability and durability: MTBF -> 5, 00,000 hours
- Compact size
- Compliance with International safety standards
- Available in 1 PH / 2 PH / 3 PH type
- Available Output (DC): 5V / 12V / 24V / 48V
- LED Indication

## BATTERY CHARGER



- Automatic 3 stage Charging Profile
- Output ripple C = 120mv (p - p)
- Protection: Short Circuit/ Over Current/ Over Voltage/ Reverse Connection/ Over Temperature
- LED Indication
- Efficiency up to 86%
- Switch Mode Technology
- Additional facility of Boost Charge Function for charging deeply discharged batteries

## DIGITAL EXPERTISE

### ELECTRICAL TRANSDUCERS / SIGNAL ISOLATORS



STATIC AC

STATIC DC

PROGRAMMABLE

RISH CON SERIES

- Accuracy class 0.2 (IEC / EN 60688)
- Output Response time <250 ms
- Slim & compact body with narrow housing (22.5 mm)
- Extensive Auxiliary Power Supply
- DIN RAIL / Wall / Panel Mounting options
- Power On LED Indication
- Available in: Factory Fitted (Static)/ Onsite Programmable Type
- Programming via: Front Keys, RS485 Port or PRKAB through software
- RS485 MODBUS Output / LCD Display / Dual Output (Optional)

### PROTECTION RELAYS



RISH RELAY - ELR VI

RISH RELAY - AR

RISH RELAY - VR

- Reliable design with compact size
- Fault Indication LEDs
- Limit configuration using presets on the front
- Available in 1CO or 1CO + 1CO output options
- Relay with inbuilt Digital Panel Meter class 0.5
- UL94 V-0 grade Polycarbonate housing
- DIN rail mount - 35 mm
- Models: Current / Voltage / Frequency /Earth Leakage
- Response time: <140 ms
- Wide Aux :60...300V AC/DC
- Last 15 Fault storage on FIFO basis.

### DIGITAL PANEL METER (DPM)



RISH EINE

RISH DPM PF

RISH DPM Hz

RISH EINE+

RISH DC DPM

- AC Ammeter / AC Voltmeter (RISH EINE)
- DC Ammeter / DC Voltmeter (RISH EINE+)
- Frequency Meter / Power Meter / PF Meter
- Full 4-Digit LED display(Upto 9999)
- CT/PT (Programmable - Primary & Secondary)
- Ambient Temperature measurement (EINE +)
- PF range setting options (EINE +)
- Accuracy: Class 0.5
- Wide range Auxiliary Supply
- Standards: IEC 61010, IEC 61326, IEC 60529
- Sizes: 48 x 96 mm, 96 x 96mm, 72 x 144mm.

### TEMPERATURE CONTROLLERS



Models: RE56, RE57, RE77, RE96

- RTD : PT100 (2 or 3 wire) & Thermocouple: J,T,K,S,R
- Control Type: On / OFF or PID Mode
- Operation Modes: Automatic or Manual
- Timer Function: with 5 functional selection
- Output on Sensor Failure
- Heating / Cooling control
- Outputs: 1 X SSR O/P or 1 X Relay O/P (Default selection)
- Add ons: 1 Relay o/p, 1 Relay + 1 SSR o/p, 2 X SSR o/p, 2 Relay o/p (Applicable for RE57, RE77, RE96)

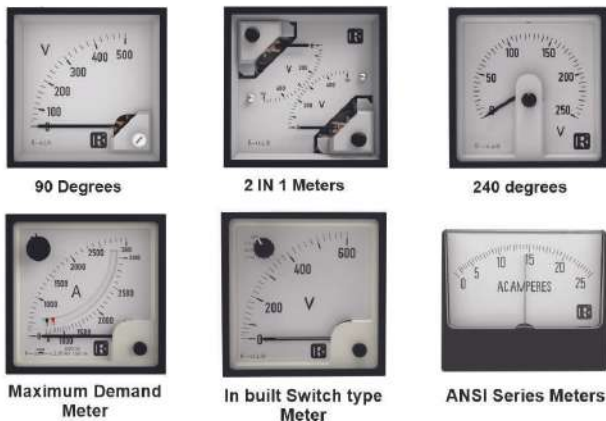


## LV CURRENT TRANSFORMERS (CT)



- Applicable standard: IEC / EN 61869 -1/2, BS 3938, IEC 60044 -1/2
- Wire-sealable terminal covers to avoid tempering
- Glass-filled polycarbonate Casing conforms UL 94V-0 .
- Individual CT with Routine Test Certificate
- CTs with Multiple Class & VA
- System voltage: 720V max. (0.72 kV)
- Insulation class: E (120 ° C max.)
- Rated Primary: 1A to 7500A
- Rated Secondary: Standard 5A (1A optional)
- Accuracy class: 1, 0.5, 0.5s, 0.2, 0.2s
- Mounting options: Wall mount, Cable mount, BUSBAR mount, DIN rail mount

## ANALOG PANEL METERS (APM)



- **UL 94 V-0**  
Flame retardant and non-drip housing
- **Scale Interchangeability**  
Unmatched Flexibility
- **Jack-up terminals**  
Ease of wiring
- **Knife edge pointer**  
Sharp indication
- **Back Cover**  
Touch-Proof Connections

## SHUNT



- High Accuracy class - 0.5
- Insulating base with cover (Up to 30A Shunt)
- UL / CE approved
- Primary current: 1A to 15000A DC
- Available outputs: 50mV, 60mV, 75mV, 100mV and 150mV
- Conforms to IEC 60947- 1/3/5

## CAM SWITCHES



- Quick & Easy installation
- Multi-pole design with multiple stacks
- Available types:  
ISOLATOR / MULTI- STEP / INSTRUMENT SELECTOR /  
CHANGEOVER / TNC / REV-FWD / SPRING RETURN
- Mechanical Life: 100,000 operations @ 300 cycles / hr
- Electrical Life: 10,000 operations @ 100% rated 120 cycle/ hr.

## INSULATION TESTER (IT)



RISH INSU 5D+/10Dx+



Audio readout of test results



RISH INSU 5Dt

- Selectable Test voltages up to 5kV/10KV
- Ideal for test in Live Distribution yards
- Insulation Resistance measurement up to 10TΩ at 5kV and 20TΩ at 10kV
- Short circuit current up to 8mA
- Test PI, DAR, DD, Voltage step and ramp
- TFT Touch screen with Graphics function
- Audio Read out of Insulation value
- Bluetooth and USB connectivity for data logging
- Mains / Rechargeable Battery Operation

## MULTIMETERS & INSULATION TESTER(MULTI)



- Basic Accuracy: 0.02% to 0.25%
- Models (Rish Multi) : 12s, 13s, 14s, 15s, 16s, 18s, 20
- Automatic Terminal Blocking (ABS) Avoids Wrong Connections.
- Rubber Holster ensures Firm Grip, Device Safety from Shocks.
- Precision multimeter (V, A, Ω, Hz, F, °C, Diode)
- Safety: 1000V - CAT III / 600V - CAT IV
- Multimeter with Inbuilt Insulation Tester - Rish MIT 30
- High Precision 5 3/4 (CAT IV) - Rish Multi 20
- 1kV Test Voltage with 2G Ohm Insulation - Rish Insu 20

## MULTIMETERS (DMM-6K & 60K SERIES)



RISH i- YOUNG



RISH 410



RISH 6016 with BT

- Improved protection with Automatic terminal Blocking System (ABS)
- Reliability assured with 3 years warranty
- Drop-proof operation with protective Rubber boot
- Designed in a way that allows operation by one person
- Complies with IEC 61326, IEC 61010-1, CE, IP50
- Basic accuracy: 0.05%
- CAT IV -600V / CAT III - 1000V Protection
- Data logging up to 32000 readings with Real Time stamping
- Square Wave Output, Temperature Measurement

## CLAMP METERS



RISH Clamp SOLAR



Rotatable Jaw



Jaw opening Lever

Patented Design

- Models : AC / DC Clamps, Power Clamps & Solar Clamp.
- Harmonic measurement
- Rotating Jaw for easy usage at physically Awkward positions.
- Jaw opening lever on backside ensures operator safety
- Measurement of Inrush current, HP
- Non-contact Live Circuit Detection (NCV)
- CAT IV -600V / CAT III- 1000V Protection
- Measurement of Power, Power factor, Phase Angle, Harmonics & all kinds of Energy parameters
- Rugged casing, with rubber edges for a strong grip
- Digital and Analog display, Auto Power off function
- Meets IEC 61326, IEC 61010, CE, Ip50





# ACCESSORIES



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