

# Digital Measurement device

		GIMAC-PQ	GIMAC-415	GIMAC-115 Plus	GIMAC-iEX	GIMAC-iNO
<b>MONITORING &amp; METERING</b>	Ia, Ib, Ic, In	•	•	•	•	•
	Io, I1, I2	•	•	•	•	•
	Va, Vb, Vc, Vab, Vbc, Vca	•	•	•	•	•
	Vo, V1, V2	•	•	•	•	•
	Watts	•	•	•	•	•
	Vars	•	•	•	•	•
	VA	•	•	•	•	•
	kWh	•	•	•	•	•
	kVarh	•	•	•	•	•
	VAh	•	•	•	•	•
	Reverse Watts	•	•	•	•	•
	Reverse Vars	•	•	•	•	•
	Reverse VA	•	•	•	•	•
	Reverse kWh	•	•	•	•	•
	Reverse kVarh	•	•	•	•	•
	Frequency	•	•	•	•	•
	Power factor	•	•	•	•	•
	Phase	•	•	•	•	
	Unbalanced factor	•	•	•		
	Harmonics (V, I)	• (15th)	• (63th)	• (15th)	• (15th)	
	THD (V, I)	•	•	•	•	
	TDD (I)	•	•	•		
	k-factor	•	•	•		
	Demand I	•	•	•	•	
Demand W	•	•	•	•		
CB operation	•	•	•			
CB operating time	•	•	•			
Accuracy	I, V	±0.2%	±0.2%	±0.3%	±0.3%	±0.3%
	W, Wh	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
<b>I/O</b>	Power outputs	2	2	2		
	Digital outputs	8	8	8		
	Digital inputs	10	10	10		
	Analog inputs	2	2			
<b>ADDITIONAL</b>	Power quality	•				
	Sag	•				
	Swell	•				
	Interruption	•				
	Undervoltage	•				
	Overvoltage	•				
	Auto power factor controller Option		•			
	Demand controller Option		•			
	Event recording	256	300	256		
Fault wave recording	Max. 60cycle					
<b>COMMUNICATION</b>	RS-485 (422)	•	•	•	•	•
	I-NET (Custom LS)		•	•		
	Modbus	•	•	•	•	•
	Dual	•				

# GIMAC-i



## Digital Power Meter



Various measurement functions  
High accuracy (0.3%)



Compact size (144 × 144 × 85mm)  
- DIN 96 & ANSI"4 cutout size



Wide voltage range  
- AC 10 ~ 452V



MODBUS/RS-485



Control voltage AC/DC 88~264V



Protecting mis-wiring



IEC 60255, KEMC 1110  
ISO 9001, ISO 14001





Contents :

Technical specifications .....	O-5-4
External .....	O-5-6
Wirings .....	O-5-7
Dimension & Ordering .....	O-5-9



# Digital Power Meter

## Technical specifications

### Rating

Model	GIMAC-i	
Wirings	1P2W, 1P3W, 3P3W, 3P4W	
Input	Frequency	50Hz / 60Hz
	Voltage	PT AC 10~452V
	Current	CT 0.05~6A
	Control voltage	AC/DC 88~264V (Free voltage)
	Power consumption	Max. 2W
	Burden	PT Max. 0.5VA CT Max. 0.5VA
Insulation Resistance	Over DC 500V 100M $\Omega$	
Insulation Voltage	AC 2kV (1kV) / 1min	
Impulse Voltage	AC 5kV (3kV) / 1.2 $\times$ 50 $\mu$ s	
Overload withstand	Current circuit	2 In for 3 hours 20 In for 2 seconds
	Voltage circuit	1.15 Vn for 3 hours
Fast Transient Disturbance	Power Input 4kV	
ESD(Electrostatic Discharge)	Air 8kV	
	Contact 6kV	
Operation temperature	-10°C ~ 55°C	
Storage temperature	-25°C ~ 70°C	
Humidity Average	30 ~ 80%	
Altitude	1000m and below	
Others	Non-impact place	
	Non-air pollution place	
Standard	IEC 60255, IEC61000-4	
Communication	MODBUS/RS-485	
Dimension(W $\times$ H $\times$ D)	144 $\times$ 144 $\times$ 85 (mm)	
Weight	0.52 kg	

### Self-diagnosis

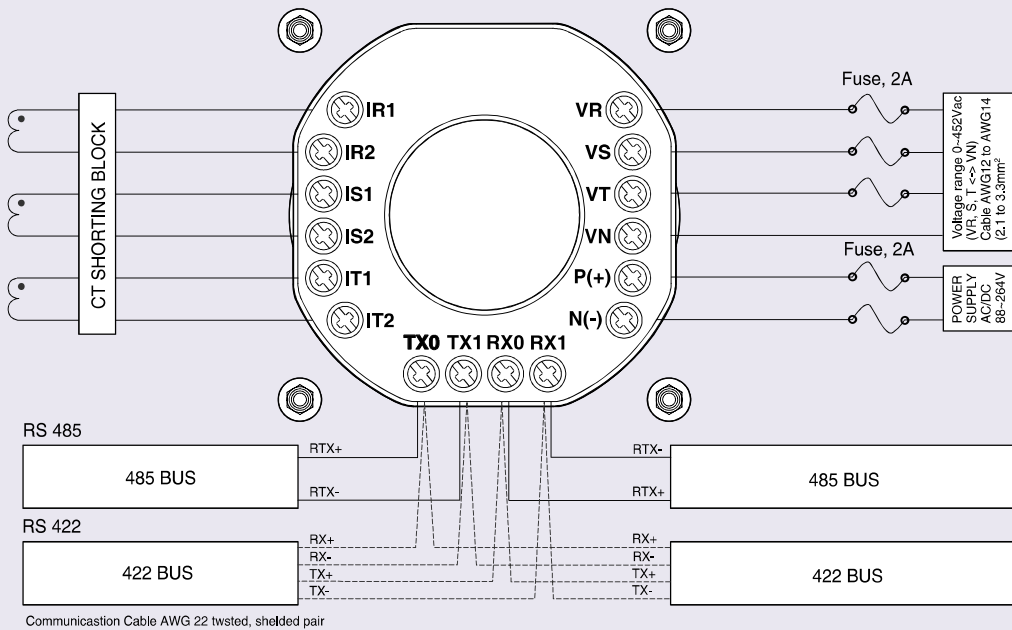
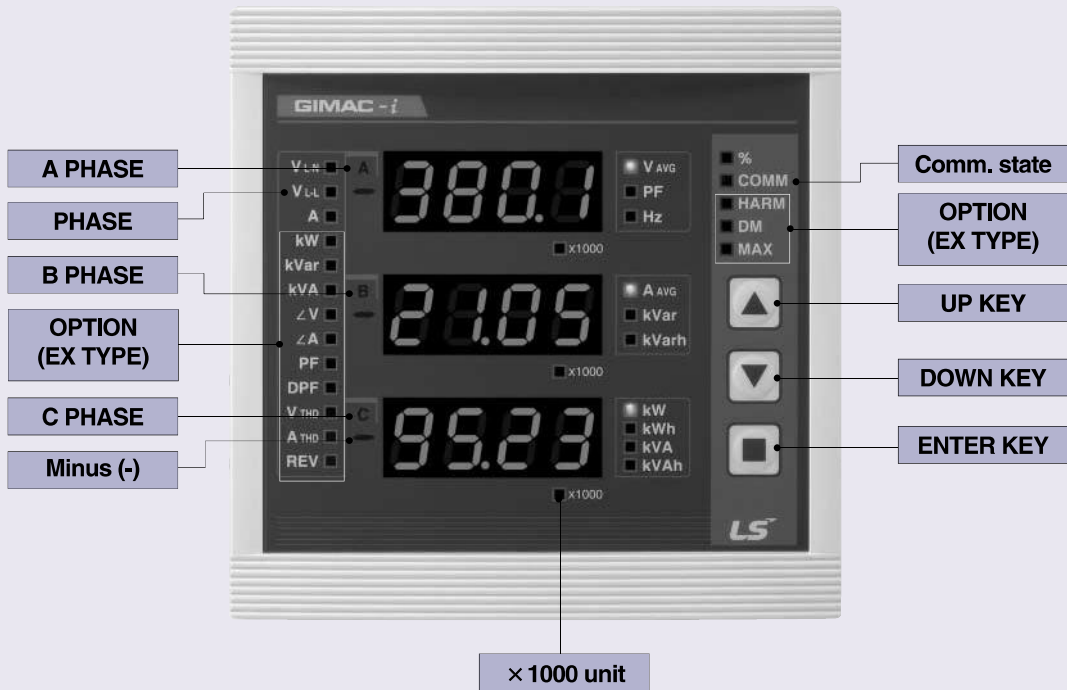
Item	LCD display
Mis-wiring	Conn Chc (connection check)
Memory error	ERROR 1
Power fail	ERROR 2
Option error	ERROE 3
Setting error	ERROR 4
Calibration error	ERROR 5

## Measurement functions

Parameters		NO	EX	Accuracy(%)	Remarks
Voltage	Vavg	■	■	±0.3%	-
	Vab, Vbc, Vca	■	■	±0.3%	-
	Va, Vb, Vc	■	■	±0.3%	-
Current	Iavg	■	■	±0.3%	-
	Ia, Ib, Ic	■	■	±0.3%	-
	Load factor Ia, Ib, Ic	■	■	-	-
Phase	∠VabVbc, ∠VabVca	-	■	±0.5°	3P3W
	∠VabIa, ∠VabIb, ∠VabIc	-	■	±0.5°	3P3W
	∠VaVb, ∠VaVc	-	■	±0.5°	3P4W
	∠IaIb, ∠IaIc, ∠IbIc	-	■	±0.5°	3P4W
Power	P	■	■	±0.5%	IEC 1036
	Pa, Pb, Pc	-	■	±0.5%	IEC 1036
	Q	■	■	±0.5%	IEC 1036
	Qa, Qb, Qc	-	■	±0.5%	IEC 1036
	S	■	■	±0.5%	IEC 1036
	Sa, Sb, Sc	-	■	±0.5%	IEC 1036
Energy	Wh	■	■	±0.5%	IEC 1036
	Varh	■	■	±0.5%	IEC 1036
	rWh	-	■	±0.5%	IEC 1036
	rVarh	-	■	±0.5%	IEC 1036
	VAh	■	■	±0.5%	IEC 1036
Frequency	F(Hz)	■	■	0.05Hz	-
Power factor	PF	■	■		+ : Lag - : Lead
	PFa, PFb, PFc	-	■		
	DPFa, DPFB, DPFC	-	■		
THD	THD(V)	-	■	-	Va(ab), Vb(bc), Vc(ca)
	THD(I)	-	■	-	Ia, Ib, Ic
Harmonics	1 <sup>st</sup> ~ 15 <sup>th</sup> Harmonics (V)	-	■	-	Va(ab), Vb(bc), Vc(ca)
	1 <sup>st</sup> ~ 15 <sup>th</sup> Harmonics (I)	-	■	-	Ia, Ib, Ic
Demand	Demand W	-	■	-	
	Demand Ia, Ib, Ic, Iavg	-	■	-	
MAX	max Ia, max Ib, max Ic, max Iavg max Va(ab) THD, max Vb(bc) THD	-	■	-	
	max Vc(ca) THD max Ia THD, max Ib THD,	-	■	-	
	max Ic THD	-	■	-	
	max W	-	■	-	
	max VAR	-	■	-	
	max VA	-	■	-	
	max Demand Iavg, Ia, Ib, Ic	-	■	-	
	max Demand W	-	■	-	

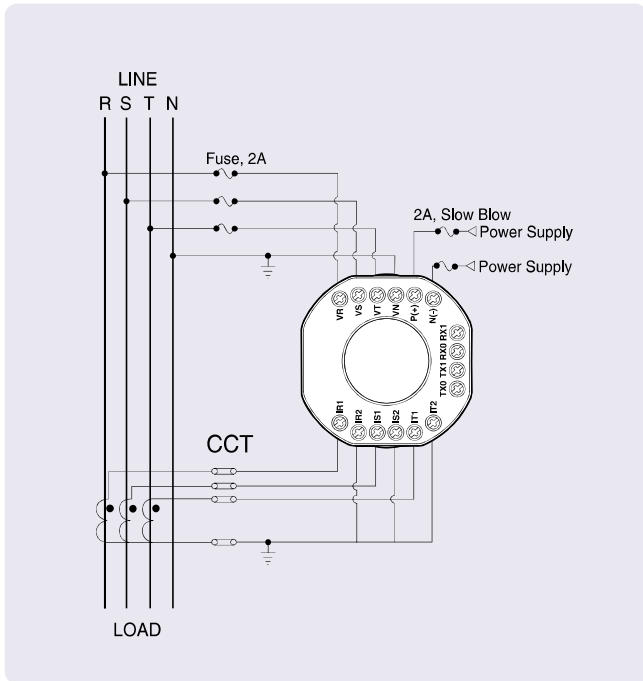
# Digital Power Meter

## External

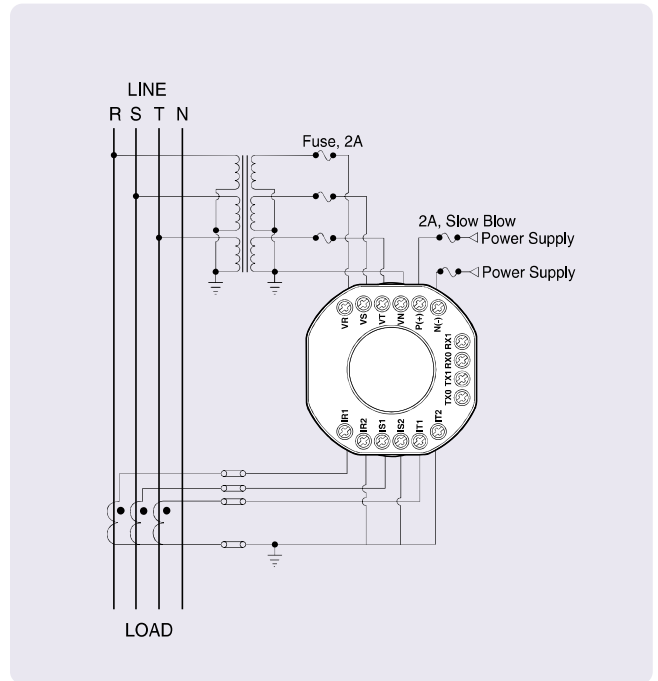


# Wirings

## 3P4W

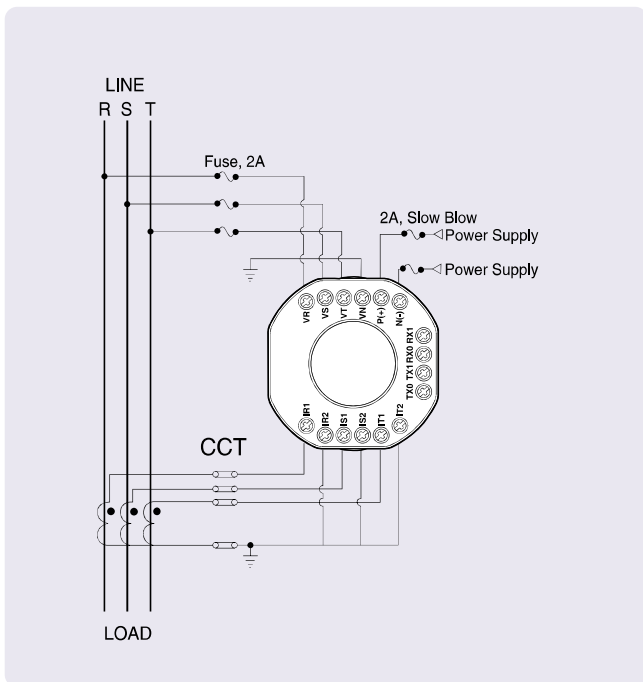


Direct wiring

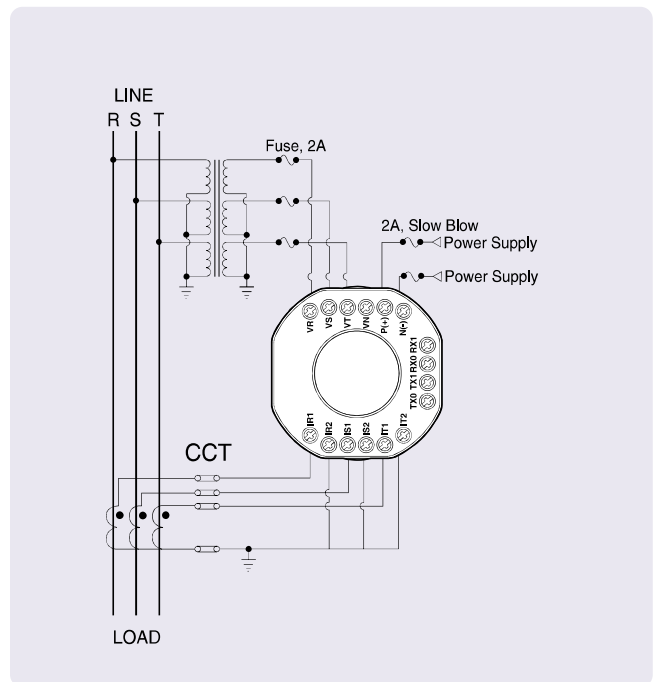


PT application

## 3P3W



Direct wiring

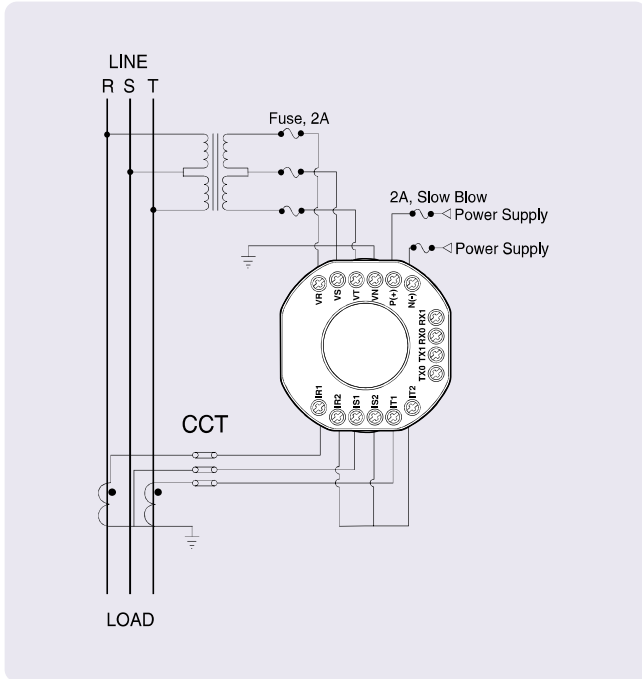


PT application

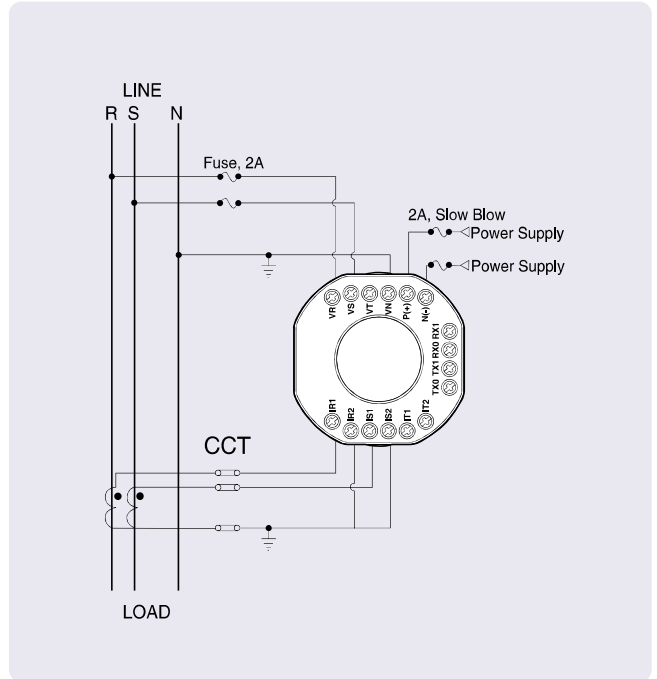
# Digital Power Meter

## Wirings

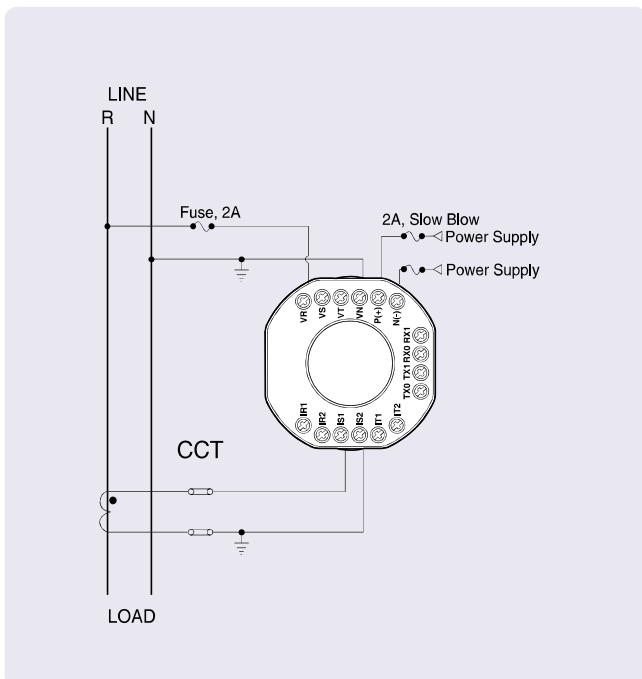
### 3P3W (Open Delta)



### 1P 3W



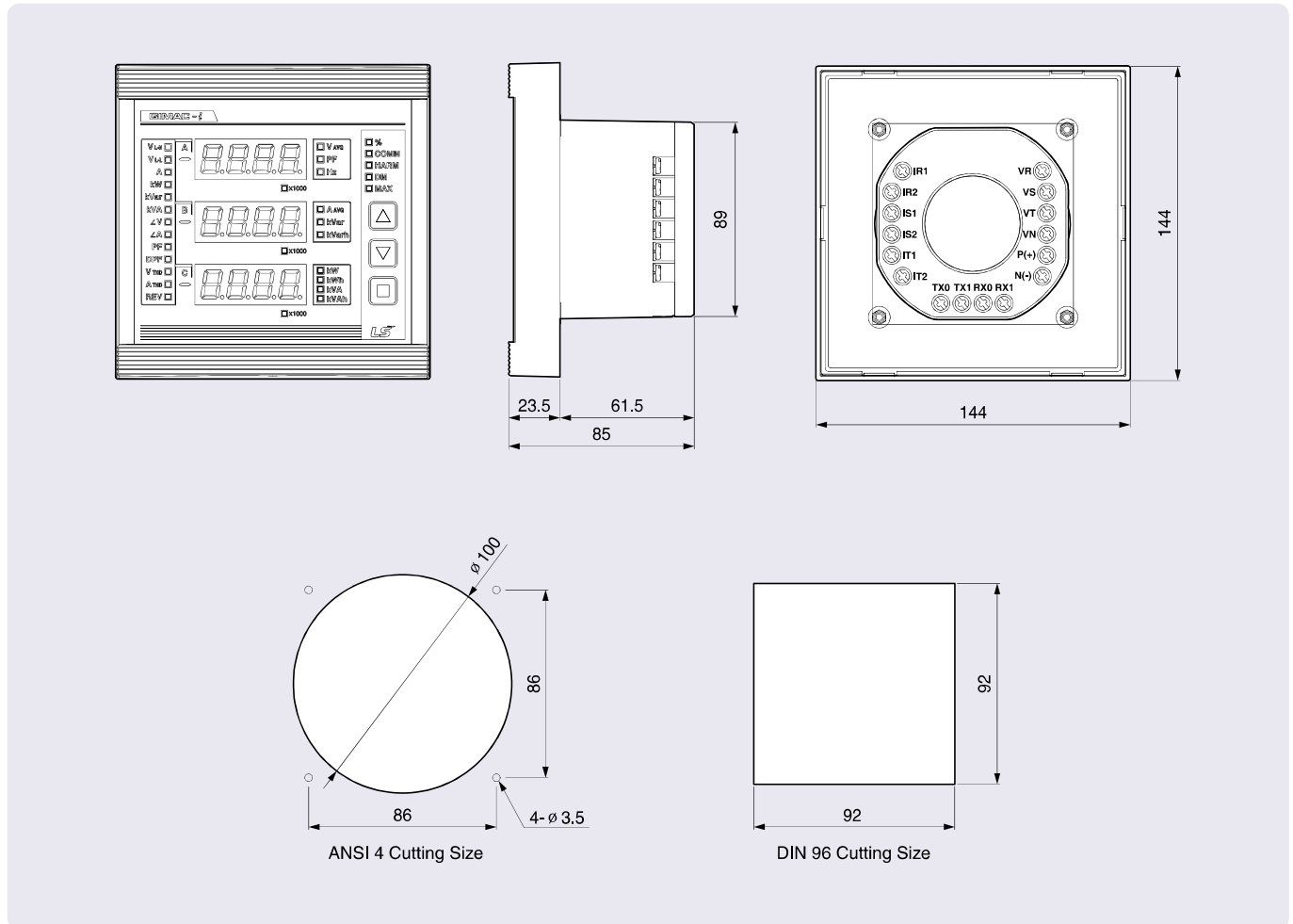
### 1P 2W





# Dimension & Ordering

## Dimension



## Ordering

**GIMAC-i**

**NO**

**M485**

**AC/DC 88~264V**

**60Hz**

Digital Power Meter

Model	
NO	Normal
EX	Expansion

Communication	
-	Without Comm.
M485	Modbus/RS-485
M422	Modbus/RS-422

Control voltage
AC/DC 88~264V

Frequency
60Hz
50Hz