



# ELECTRIC CONTROLS

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### ACUVIM II Series 디지털파워미터

#### 개요 :

ACUVIM II Series 다기능 디지털파워미터는 전기적 에너지, 전력, 수요 등을 비롯하여 전압, 전류, 기타 사용이 간편한 인터페이스를 통한 다른 매개변수들에 대한 완전한 액세스를 제공한다. 또한, 이 ACUVIM II 디지털미터의 한 옵션을 보면 디지털 출력과 더불어 시간 스템프 기록을 이용한 콘트롤, 이벤트, 알람 등의 기능도 제공하고 있다. 추가적인 기능으로는 31st 순열로의 개별적인 고조파를 비롯하여 통합 고조파 왜곡 (THD) 등이 포함되어 있다.



#### 주요 특징 :

- 전압, 전류, 전력에 대한 3상 RMS 측정
- THD 및 편의 광역전력 품질 모니터링을 위한 31st 순열에 이르는 개별적인 전류/전압 고조파 측정
- 최소/최대 전기적 매개변수를 이용한 2방향성 에너지 측정
- 사용자 정의 설정사항에서의 릴레이 작동을 위한 첨단 컨트롤 기능
- 크고 밝은 청색 후면발광 LCD 그래픽으로 전기가격, 릴레이 상태, 부하 상태 디스플레이
- 전압/전류 부조화에 관한 그래픽 다이어그램 표시
- 전력 품질 분석 기능
- OVER / UNDER LIMIT 경보.
- 멀티 통신 포트 (즉, 이더넷, RS485)
- MOD BUS RTU, DNP3.0, BACNET IP, BACNET MS/TP지원
- 웹서버, 이메일 발송 가능, SNMP
- 스위치 상태 모니터링
- WAVEFORM CAPTURE
- 2 - 63 까지 개별 Harmonic 측정.

#### Application :

- 배전반, 변압기, 발전기, 정류기 및 모터반등에 대한 메터링.
- 중 저압반 시스템에 적용
- Commercial, Industrial, Utility에 적용.
- 전력 품질 분석에 적용
- 데이터로깅에 적용.

#### Specification :

METERING				
Parameters		Accuracy	Resolution	Range
Voltage		0.2%	0.1V	10V~1000kV
Current		0.2%	0.1mA	5mA~50000A
Power		0.2%	1W	-9999MW~9999MW
Reactive Power		0.2%	1var	-9999Mvar~9999Mvar
Apparent Power		0.2%	1VA	0~9999MVA
Power Demand		0.2%	1W	-9999MW~9999MW
Reactive Power Demand		0.2%	1var	-9999Mvar~9999Mvar
Apparent Power Demand		0.2%	1VA	0~9999MVA
Power Factor		0.2%	0.001	-1.000~1.000
Frequency		0.2%	0.01Hz	45.00~65.00Hz (50 or 60Hz type) 300.00Hz~500.00Hz (400Hz type)
Energy	Primary	0.2%	0.1kWh	0~99999999.9kWh
	Secondary	0.2%	0.001kWh	0~999999.999kWh
Reactive Energy	Primary	0.2%	0.1kvarh	0~99999999.9kvarh
	Secondary	0.2%	0.001kvarh	0~999999.999kvarh
Apparent Energy	Primary	0.2%	0.1kVAh	0~99999999.9kVAh
	Secondary	0.2%	0.001kVAh	0~999999.999kVAh
Harmonics		1.0%	0.1%	
Phase Angle		2.0%	0.1°	0.0°~359.9°
Unbalance Factor		2.0%	0.1%	0.0%~100.0%
Running Time			0.01h	0~9999999.99h



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## FUNCTION LIST

● Function; ◎ Option; Blank NA

CATEGORY	ITEM	PARAMETERS	Acuvim II	Acuvim IIR	Acuvim IIE	Acuvim IIW
METERING	REAL TIME METERING	Phase Voltage	V1, V2, V3, Vlnavg	●	●	●
		Line Voltage	V12, V23, V31, Vllavg	●	●	●
		Current	I1, I2, I3, In, Iavg	●	●	●
		Power	P1, P2, P3, Psum	●	●	●
		Reactive Power	Q1, Q2, Q3, Qsum	●	●	●
		Apparent Power	S1, S2, S3, Ssum	●	●	●
		Power Factor	PF1, PF2, PF3, PF	●	●	●
		Frequency	F	●	●	●
		Load Features	Load Features	●	●	●
		Four Quadrant Powers	Four Quadrant Powers	●	●	●
	ENERGY & DEMAND	Energy	Ep_imp, Ep_exp, Ep_total, Ep_net, Epa_imp, Epa_exp, Epb_imp, Epb_exp, Epc_imp, Epc_exp	●	●	●
		Reactive Energy	Eq_imp, Eq_exp, Eq_total, Eq_net, Eqa_imp, Eqa_exp, Eqb_imp, Eqb_exp, Eqc_imp, Eqc_exp	●	●	●
		Apparent Energy	Es, Esa, Esb, Esc	●	●	●
		Demand	Dmd_P, Dmd_Q, Dmd_S, Dmd_I1, Dmd_I2, Dmd_I3	●	●	●
TOU	TIME OF USE	Energy/max demand	TOU, 4 Tariffs, 12 Seasons, 14 Schedules		●	
	DAYLIGHT SAVING TIME	Two Adjustable Formats	Month/Day/Hour/Minute Month/Week/First few weeks/Hour/Minute		●	
MONITORING	WAVEFORM CAPTURE	Voltage and Current Waveform	Trigger, Manual, DI change, Sag/Dips, Swell, Over Current			●
	POWER QUALITY	Voltage Unbalance Factor	U_unbl	●	●	●
		Current Unbalance Factor	I_unbl	●	●	●
		Voltage THD	THD_V1, THD_V2, THD_V3, THD_Vavg	●	●	●
		Current THD	THD_I1, THD_I2, THD_I, THD_Iavg	●	●	●
		Individual Harmonics	Harmonics 2 <sup>nd</sup> to 63 <sup>rd</sup> (50H or 60Hz) Harmonics 2 <sup>nd</sup> to 15 <sup>th</sup> (400Hz)	●	●	●
		Voltage Crest Factor	Crest Factor	●	●	●
		TIF	THFF	●	●	●
		Current K factor	K Factor	●	●	●
	STATISTICS	MAX with Time Stamp MIN with Time Stamp	Each phase of V & I; Total of P, Q, S, PF & F; Demand of I1, I2, I3, P, Q&S; Each phase THD of V & I; Unbalance factor of V & I	●	●	●
OTHERS	ALARM	Over/Under Limit Alarm	V, I, P, Q, S, PF, V_THD & I_THD Each Phase and Total or Average; Unbalance Factor of V & I; Load Type; Analog Input of Each Channel; Demand of I1, I2, I3, P, Q&S; Reverse phase sequence; DI1~DI28	●	●	●
	POWER QUALITY EVENT LOGGING	Sag/Dips, Swell	Voltage			●
	DATA LOGGING	Data Logging 1 Data Logging 2 Data Logging 3	F, V1/2/3/Iavg, V12/23/13/Iavg, I1/2/3/n/avg, P1/2/3/sum, Q1/2/3/sum, S1/2/3/sum, PF1/2/3, PF, U_unbl, I_unbl, Load Type, Ep_imp, Ep_exp, Ep_total, Ep_net, Eq_imp, Eq_exp, Eq_total, Eq_net, Es, Epa_imp, Epa_exp, Epb_imp, Epb_exp, Epc_imp, Epc_exp, Eqa_imp, Eqa_exp, Eqb_imp, Eqb_exp, Eqc_imp, Eqc_exp, Esa, Esb, Esc, THD_V1/2/3/avg, THD_I1/2/3/avg, Harmonics 2 <sup>nd</sup> to 63 <sup>rd</sup> , Crest Factor, THFF, K Factor, Sequence and Phase Angles, DI Counter, AI, AO, Dmd P/Q/S, Dmd I1/2/3		●	●
	ONBOARD MEMORY SIZE	Memory	Bytes	—	8MB	8MB
	COMMUNICATION	RS485 Port, Half Duplex, Optical Isolated	Modbus®-RTU Protocol/DNP3.0 Option	●	●	●
	TIME	Real Time Clock	Year, Month, Date, Hour, Minute, Second	●	●	●

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### OPTION MODULE

	CATEGORY	ITEM	PARAMETERS	Acuvim II	Acuvim IIR	Acuvim IIE	Acuvim IIW
OPTION MODULE	I/O OPTION	Switch Status (DI)	Digital Input (Wet)	⊙	⊙	⊙	⊙
		Power Supply for DI	24 Vdc	⊙	⊙	⊙	⊙
		Relay Output (RO)	NO, Form A	⊙	⊙	⊙	⊙
		Digital Output (DO)	Photo-MOS	⊙	⊙	⊙	⊙
		Pulse Output (PO)	By Using DO	⊙	⊙	⊙	⊙
		Analog Input (AI)	0(4)~20mA, 0(1)~5V	⊙	⊙	⊙	⊙
		Analog Output (AO)	0(4)~20mA, 0(1)~5V	⊙	⊙	⊙	⊙
	COMMUNICATION	Ethernet	10M/100M, Modbus-TCP, HTTP Webpage, Email	⊙	⊙	⊙	⊙
		Profibus-DP	Profibus-DP/V0	⊙	⊙	⊙	⊙
		BACnet	IP or MS/TP	⊙	⊙	⊙	⊙
		RS485 Module	Additional Modbus RTU	⊙	⊙	⊙	⊙
	400Hz TYPE	Only support full-wave energy, support 2 <sup>nd</sup> ~15 <sup>th</sup> individual harmonics			⊙	⊙	⊙

### DIGITAL/ANALOG I/O

AXM-IO1	AXM-IO2	AXM-IO3
		
6x digital inputs 24Vdc power for digital inputs 2x relay outputs	4x digital inputs 2x digital outputs 2x analog outputs	4x digital inputs 2x relay outputs 2x analog inputs

### COMMUNICATION PROTOCOLS

	Standard	AXM-NET	AXM-NET-P	AXM-BMS	AXM-BIP	AXM-PROFI	AXM-RS485
MODBUS-RTU	•						•
DNP 3.0	•						
MODBUS-TCP		•	•				
HTTP Webserver		•	•				
SMTP Email		•	•				
HTTP Push			•				
BACnet-MS/TP				•			
BACnet-IP					•		
PROFIBUS						•	

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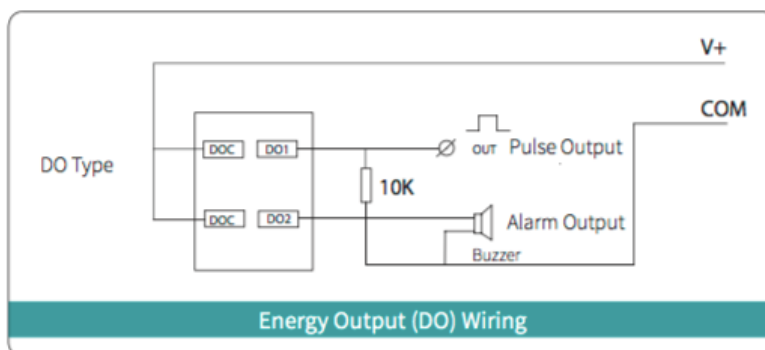
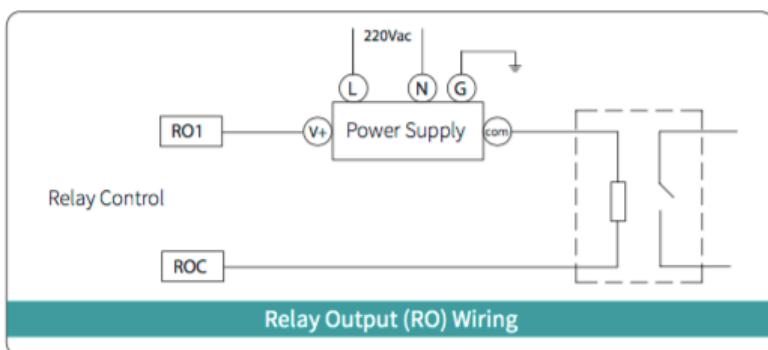
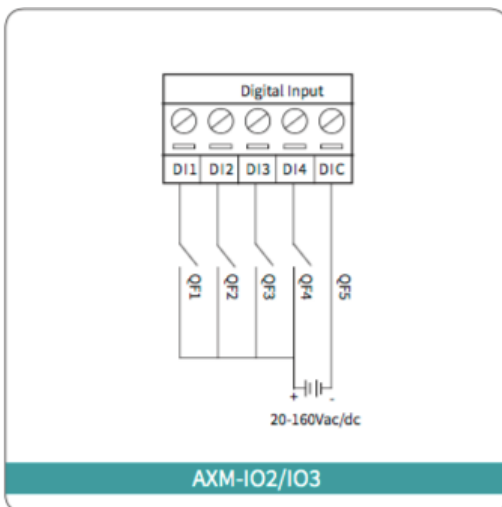
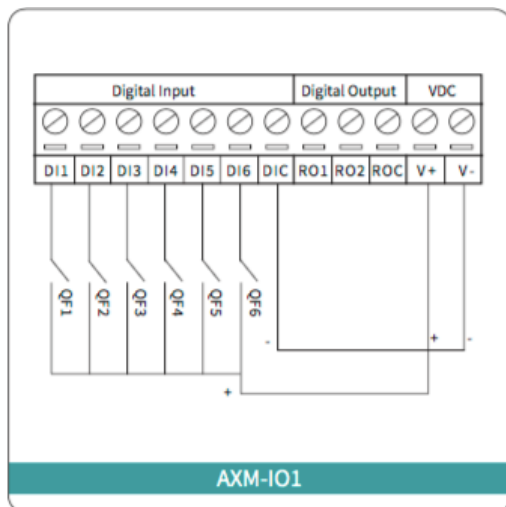
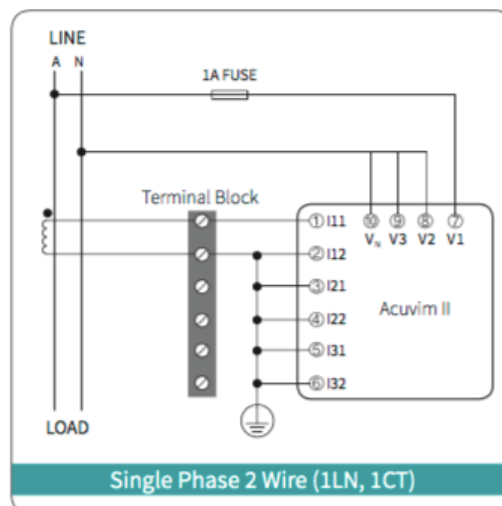
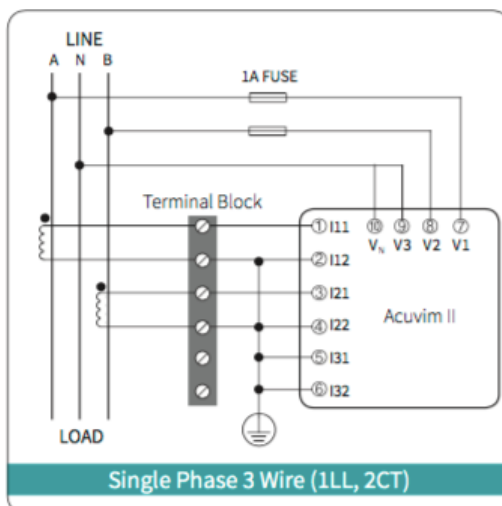
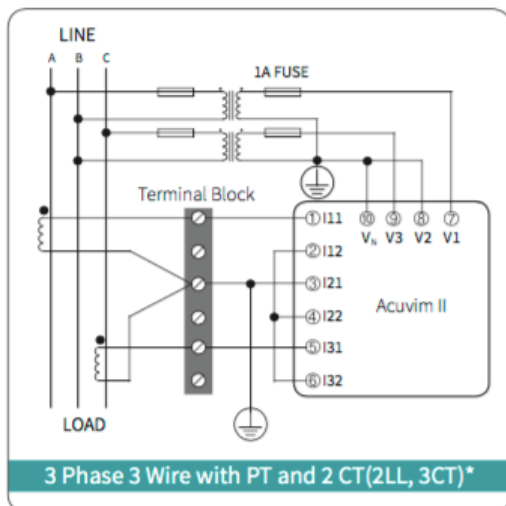
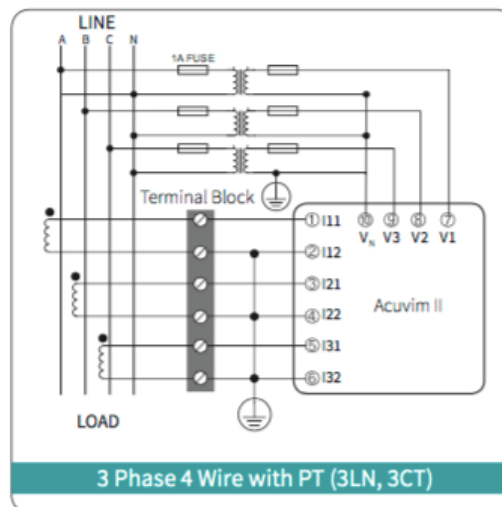
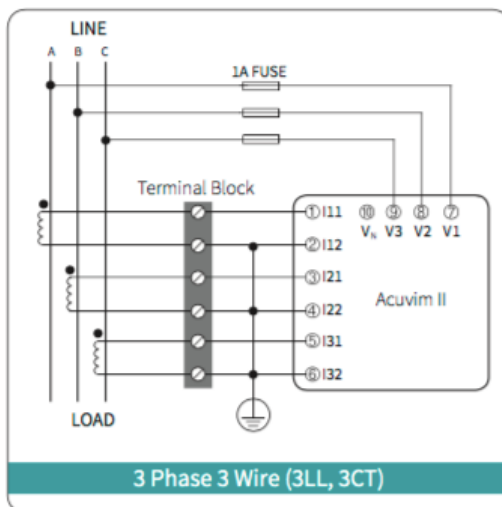
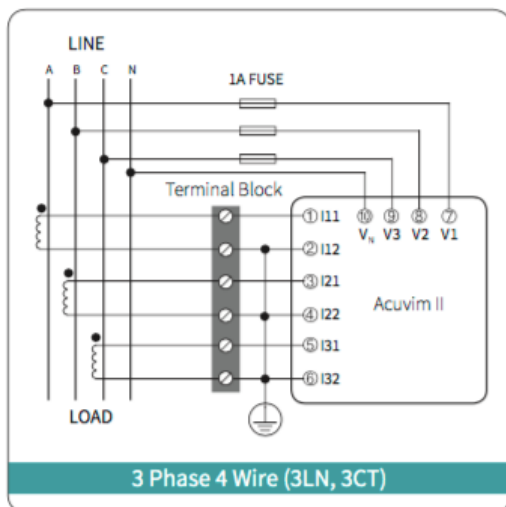


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## 결선도



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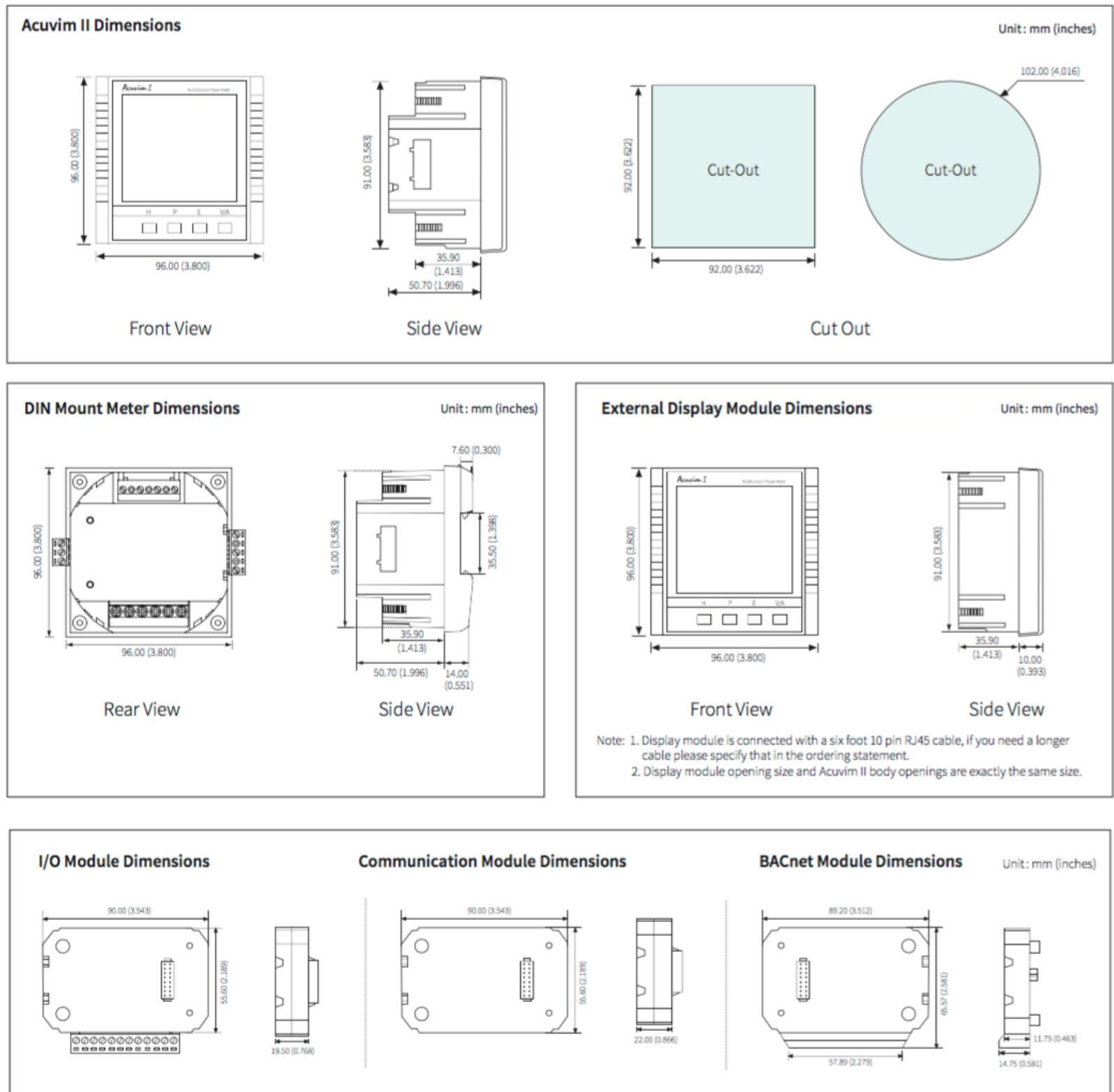


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## DIMENSIONS



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