



Klemmsan®

606355 POWYS 1022

1Ø Energy Analyzer

General	Seven Segment Display	-	
	LCD Screen	✓	
	Language Support	-	
	Battery	-	
	Real Time Clock	-	
	Password Protection	✓	
	Current Transformer Ratio	1 - 5000	
Cable Cross Sections	Supply , Voltage Current , Relay Outputs		
General	Voltage Transformer Ratio	1 - 5000	
	Demand Period	1-60 min. adjustable	
	Connection Type	Single-phase with neutral and 1 CT	
	Measurements in Quadrants	4	
	Number of Measurements in a Period	256	
	LCD/Display Refresh Period	1sn	
	Networks	TT, TN, IT	
	Phasor Diagram	-	
	Signal Waveforms	-	
	Min./Max./Demand Values	✓	
	Energy Measurement	Number of Tariffs	1
		Multi Sub-Tariffs (Peak, Day and Off-Peak)	-
1Ø Phase Energy Meters		✓	
3Ø Phase Energy Meters		-	
4 Quadrant Reactive Energy Meters		-	

Current Measurement Input	Measurement Range	10mA-6A AC
	Overvoltage Category	300 V Cat II
	Measurement Surge Voltage	2 kV
	Power Consumption	<0.2 VA
	Intermittent Overload	100 A for 1 sec.
	Sampling Frequency between 45-65 Hz	12,8 kHz
Voltage Measurement Input	Overvoltage Category	300 V Cat III
	Measured Range L-N	10-500 Vrms
	Measured Range L-L	-
	Measured Frequency Range	45-65 Hz
	Power Consumption	<0.1 VA
	Sampling Frequency between 45-65 Hz	12,8 kHz
Power Quality Measurements	Harmonics for Current and Voltage Phases	Up to 31st
	THD - Voltage in %	✓
	THD - Current in %	✓
Other Measurements	Run Hour (Operating Time for Load in Hours)	✓
	On Hour (Operating Time for Meter in Hours)	✓
	Int Counter (Number of Power Interruptions)	✓
According to IEC 61557-12	Total Active Power	Class 0.5
	Total Reactive Power	Class 1
	Total Apparent Power	Class 0.5
	Total Active Energy	Class 0.5
	Total Reactive Energy	Class 2
	Frequency	Class 0.1
	Current	Class 0.5
	Neutral Current	Class 0.5
	Voltage	Class 0.2
	Power Factor	Class 0.5
	THDV, THDI	Class 1
According to IEC 62053-22	Total Active Energy	Class 0.5S

According to IEC 62053-23	Total Reactive Energy	Class 2
Alarm Relay Outputs	Number of Outputs	-
	Type	
	Max. Switching Current	-
	Max. Switching Voltage	-
	Max. Switching Power	-
Digital Inputs	Number of Inputs	-
	Minimum Counting Frequency	-
	Input Present or Not	-
	Isolation Level	-
Digital Outputs	Number of Outputs	2
	Type	Transistör
	Switching Voltage Range	5-30 VDC
	Minimum Switching Frequency	20 Hz, 50 ms
	Isolation Level	5000 Vrms
Analog Outputs	Number of Outputs	-
	Range of Outputs 0-5 V, 0-10 V, -5-5 V, -10-10V, 0-20 mA, 4-20 mA	-
	Isolation	-
Voltage	AC	85-300V
	DC	85-300V
Consumption	AC	<4VA
	DC	-
Supply	Frequency	45-65Hz
Min./Max./Avg. Values	Hourly Records	-
	Daily Records	-
	Monthly Records	-
Data Logging with timestamp	Demand	-
	Alarm Records	-
Communication	Protocol	-
	Baud Rate	-

	Parity Number	--
	Stop Bit	--
	Address	--
	Isolation	--
Mechanical Properties	Weight (g)	--
	Protection Class	IP20
	Mounting Type	Rail Mounted
Supply, Voltage, Current, Relay Outputs	Stranded:	2.5mm ² - 14AWG
	Solid:	4mm ² - 12AWG, 2x1.5mm ² - 2x16AWG
Digital I/O, RS 485, Analog Output	Stranded:	2.5mm ² - 16AWG
	Solid:	1.5mm ² - 16AWG, 2x0.75mm ² - 2x18AWG
Ambient Conditions	Operating Temperature	-20°C +70°C
	Storing Temperature	-30°C +80°C
	Relative Humidity (No Condensation)	Maks. 95%
General		
	Dimensions	

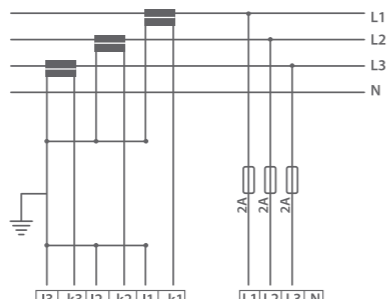
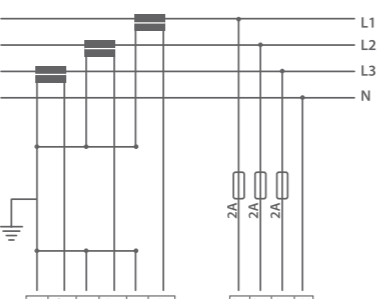
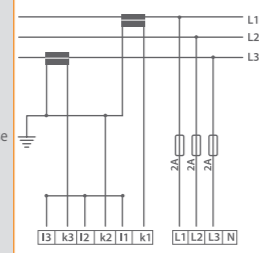
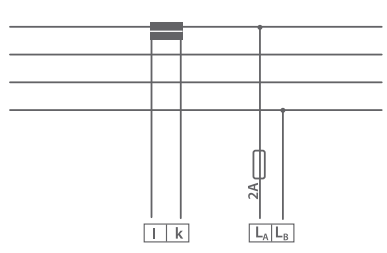
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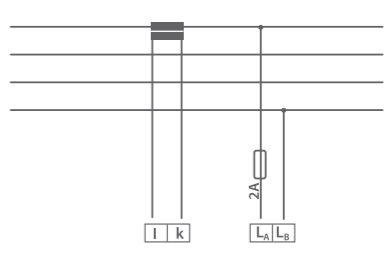
606355 1Ø Energy Analyzer

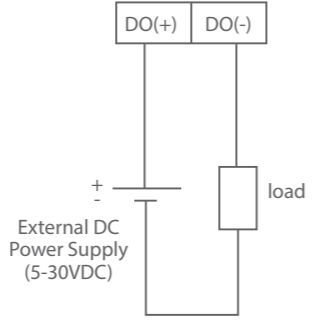
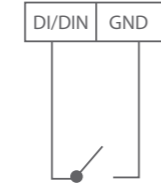
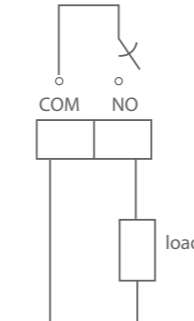
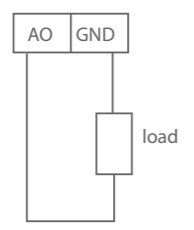
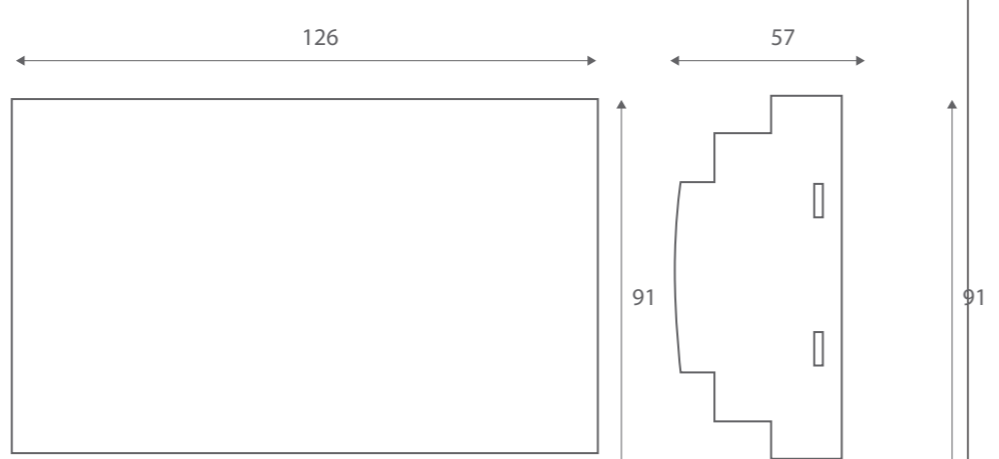
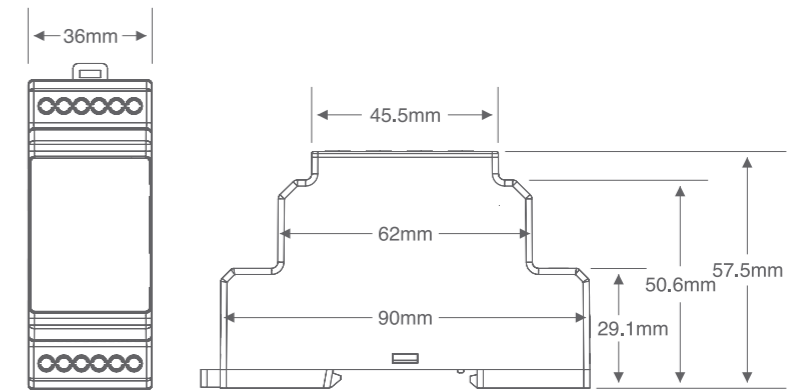


Type		DNPT	POWYS 3121	POWYS 3111	POWYS 3101		
Definiton		3Ø Power Transducer	3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer		
Order Number		606400	606305	606304	606303		
General	Seven Segment Display	-	-	-	-		
	LCD	-	Available	Available	-		
	Language Support	-	-	-	-		
	Battery	Available	-	-	-		
	Real Time Clock	Available	-	-	-		
	Password Protection	-	Available	Available	Available		
	Current Transformer Ratio	1-5000	1-5000	1-5000	1-5000		
	Voltage Transformer Ratio	1-5000	1-5000	1-5000	1-5000		
	Demand Period	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable		
	Measurement in Quadrants	4	4	4	4		
	Number of Measurement in a period	512	256	256	256		
	LCD/Display Refresh Period	-	1 sec	1 sec	-		
	Network	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT		
	Wiring	3P4W, 3P3W, Aron	3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W		
	Phasor Diagram	-	-	-	-		
Signal Waveforms	-	-	-	-			
Min/Max/Demand Values	Available	Available	Available	Available			
Number of Tariffs	2	2	2	2			
Energy Measurement	Multi Sub-Tariffs(Peak, Day and Off-Peak)	Available	-	-	-		
	1Ø Phase Energy Meters	-	Available	Available	Available		
	3Ø Phase Energy Meters	Available	Available	Available	Available		
	4 Quadrant Reactive Energy Meters	-	-	-	-		
Current Measurement Input	Measurement Range	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC		
	Overvoltage Category	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II		
	Measurement Surge Voltage	2 kV	2 kV	2 kV	2 kV		
	Power Consumption	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA		
	Intermittent overload	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec		
Voltage Measurement Input	Sampling Freq.between 45-65 Hz	25.6 kHz	12.8 kHz	12.8 kHz	12.8 kHz		
	Overvoltage Category	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III		
	Measured Range L-N	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms		
	Measured Range L-L	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms		
	Measured Frequency Range	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz		
Power Quality Measurements	Power Consumption	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA		
	Sampling Freq.between 45-65 Hz	25.6 kHz	12.8 kHz	12.8 kHz	12.8 kHz		
	Harmonics for current and voltage phases	Upto 51st	Upto 31st	Upto 31st	Upto 31st		
	THD-Voltage in %	Available	Available	Available	Available		
Other Measurements	THD-Current in %	Available	Available	Available	Available		
	Run Hour (Operating time for load in hours)	-	Available	Available	Available		
	On Hour (Operating time for meter in hours)	-	Available	Available	Available		
	Int Counter (Number of power interruptions)	-	Available	Available	Available		
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.2	Class 0.5	Class 0.5	Class 0.5	
		Total Reactive Power	Class 1	Class 1	Class 1	Class 1	
		Total Apparent Power	Class 0.2	Class 0.5	Class 0.5	Class 0.5	
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
		Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	
		Frequency	Class 0.05	Class 0.1	Class 0.1	Class 0.1	
		Current	Class 0.2	Class 0.5	Class 0.5	Class 0.5	
		Neutral Current	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
		Voltage	Class 0.2	Class 0.2	Class 0.2	Class 0.2	
		Power factor	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
	THDV, THDI	Class 1	Class 1	Class 1	Class 1		
	According to IEC 62053-22	Total Active Energy	Class 0.25	Class 0.55	Class 0.55	Class 0.55	
	According to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	
	Inputs and Outputs	Alarm Relay Outputs	Number of outputs	2 pcs.	2 pcs.	2 pcs.	2 pcs.
			Type	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
Max. Switching Current			10 A	10 A	10 A	10 A	
Max. Switching Voltage			250 VAC	250 VAC	250 VAC	250 VAC	
Max. Switching Power			1250 VA	1250 VA	1250 VA	1250 VA	
Digital Inputs		Number of inputs	2 pcs.	2 pcs.	2 pcs.	2 pcs.	
		Minimum Counting Frequency	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms	
		Input Present or Not	Dry Contact	Dry Contact	Dry Contact	Dry Contact	
		Isolation Level	5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms	
		Number of outputs	2 pcs.	2 pcs.	2 pcs.	2 pcs.	
Digital Outputs		Type	Transistor	Transistor	Transistor	Transistor	
		Switching Voltage Range	5-30 VDC	5-30 VDC	5-30 VDC	5-30 VDC	
		Minimum Switching Frequency	20 Hz, 50 ms	20 Hz, 50 ms	20 Hz, 50 ms	20 Hz, 50 ms	
		Isolation Level	5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms	
		Number of outputs	4	-	-	-	
Analog Outputs	Range of Outputs	0-5 V, 0-10 V, -5-5 V, -10-10V, 0-20 mA, 4-20 mA	-	-	-		
	Isolation	isolated	-	-	-		

	POWYS 3100	POWYS 1110	POWYS 1120	POWYS 1012	POWYS 1022		
Definiton	3Ø Energy Analyzer	1Ø Energy Analyzer	1Ø Energy Analyzer	1Ø Energy Analyzer	1Ø Energy Analyzer		
Order Number	606300	606351	606352	606354	606355		
General	Seven Segment Display	-	-	-	-		
	LCD	-	Available	Available	Available		
	Language Support	-	-	-	-		
	Battery	-	-	-	-		
	Real Time Clock	-	-	-	-		
	Password Protection	-	-	-	-		
	Current Transformer Ratio	1-5000	1-5000	1-5000	1-5000		
	Voltage Transformer Ratio	1-5000	1-5000	1-5000	1-5000		
	Demand Period	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable		
	Measurement in Quadrants	4	4	4	4		
	Number of Measurement in a period	256	256	256	256		
	LCD/Display Refresh Period	-	1 sec	1 sec	1 sec		
	Network	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT		
	Wiring	3P4W, 3P3W	Single-phase with neutral and 1 CT	Single-phase with neutral and 1 CT	Single-phase with neutral and 1 CT		
	Phasor Diagram	-	-	-	-		
Signal Waveforms	-	-	-	-			
Min/Max/Demand Values	Available	Available	Available	Available			
Number of Tariffs	1	1	1	1			
Energy Measurement	Multi Sub-Tariffs(Peak, Day and Off-Peak)	-	-	-	-		
	1Ø Phase Energy Meters	Available	Available	Available	Available		
	3Ø Phase Energy Meters	Available	-	-	-		
	4 Quadrant Reactive Energy Meters	-	-	-	-		
Current Measurement Input	Measurement Range	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC		
	Overvoltage Category	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II		
	Measurement Surge Voltage	2 kV	2 kV	2 kV	2 kV		
	Power Consumption	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA		
	Intermittent overload	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec		
Voltage Measurement Input	Sampling Freq.between 45-65 Hz	12.8 kHz	12.8 kHz	12.8 kHz	12.8 kHz		
	Overvoltage Category	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III		
	Measured Range L-N	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms		
	Measured Range L-L	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms		
	Measured Frequency Range	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz		
Power Quality Measurements	Power Consumption	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA		
	Sampling Freq.between 45-65 Hz	12.8 kHz	12.8 kHz	12.8 kHz	12.8 kHz		
	Harmonics for current and voltage phases	Upto 31st	Upto 31st	Upto 31st	Upto 31st		
	THD-Voltage in %	Available	Available	Available	Available		
Other Measurements	THD-Current in %	Available	Available	Available	Available		
	Run Hour (Operating time for load in hours)	-	Available	Available	Available		
	On Hour (Operating time for meter in hours)	-	Available	Available	Available		
	Int Counter (Number of power interruptions)	-	Available	Available	Available		
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
		Total Reactive Power	Class 1	Class 1	Class 1	Class 1	
		Total Apparent Power	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
		Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	
		Frequency	Class 0.1	Class 0.1	Class 0.1	Class 0.1	
		Current	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
		Neutral Current	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
		Voltage	Class 0.2	Class 0.2	Class 0.2	Class 0.2	
		Power factor	Class 0.5	Class 0.5	Class 0.5	Class 0.5	
	THDV, THDI	Class 1	Class 1	Class 1	Class 1		
	According to IEC 62053-22	Total Active Energy	Class 0.55	Class 0.55	Class 0.55	Class 0.55	
	According to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	
	Inputs and Outputs	Alarm Relay Outputs	Number of outputs	-	-	-	-
			Type	-	-	-	-
Max. Switching Current			-	-	-	-	
Max. Switching Voltage			-	-	-	-	
Max. Switching Power			-	-	-	-	
Digital Inputs		Number of inputs	-	-	-	-	
		Minimum Counting Frequency	-	-	-	-	
		Input Present or Not	-	-	-	-	
		Isolation Level	-	-	-	-	
		Number of outputs	-	-	-	2 pcs.	
Digital Outputs		Type	-	-	-	Transistor	
		Switching Voltage Range	-	-	-	5-30 VDC	
		Minimum Switching Frequency	-	-	-	20 Hz, 50 ms	
		Isolation Level	-	-	-	5000 Vrms	
		Number of outputs	-	-	-	5000 Vrms	
Analog Outputs	Range of Outputs	-	-	-	-		
	Isolation	-	-	-	-		

Type		DNPT	POWYS 3121	POWYS 3111	POWYS 3101
Supply	Voltage	AC 85-300V	85-300V	85-300V	85-300V
	Consumption	DC <3VA	<4.5VA	<6VA	<6VA
	Frequency	DC <2.5W	<2W	<3W	<3W
	Min/max/avg Values	45-65Hz	45-65Hz	45-65Hz	45-65Hz
Data Logging with timestamp	Hourly records	1920 hours x 68 different parameters	-	-	-
	Daily records	240 days x 68 different parameters	-	-	-
	Monthly records	36 months x 68 different parameters	-	-	-
	Demand	4 months x 16 different parameters	-	-	-
Communication	Protocol	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU
	Baud rate	2400-115200 bps adjustable	1200-57600 bps adjustable	1200-57600 bps adjustable	1200-57600 bps adjustable
	Parity number	None	Odd, Even, None	Odd, Even, None	Odd, Even, None
	Stop bit	1	1	1	1
	Address	1-247	1-247	1-247	1-247
	Isolation	2750V RMS	2750V RMS	2750V RMS	2750V RMS
Mechanical Properties	Weight(g)	335	340	330	278
	Protection Class	IP20	IP20	IP20	IP20
Cable Cross Sections	Supply, Voltage, Current, Relay Outputs	Stranded: 2,5 mm2 - 14AWG	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG
	Digital I/O, RS 485, Analog Output	Solid: 4mm2-12 AWG, 2x1.5 mm2-2x16 AWG	4mm2-12 AWG, 2x1.5 mm2-2x16 AWG	4mm2-12 AWG, 2x1.5 mm2-2x16 AWG	4mm2-12 AWG, 2x1.5 mm2-2x16 AWG
	Operating Temperature	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
	Storage Temperature	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
Schematics	3 wires with 3 CTs				
	4 wires with 3 CTs				
	3 wires with 2 CTs				
	Single Phase with 1 CT				

	POWYS 3100	POWYS 1110	POWYS 1120	POWYS 1012	POWYS 1022
Supply	85-300V	85-300V	85-300V	85-300V	85-300V
Consumption	<6VA	<4VA	<4VA	<4VA	<4VA
Frequency	45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
Data Logging with timestamp	-	-	-	-	-
Communication	Modbus RTU	Modbus RTU	Modbus RTU	-	-
Mechanical Properties	IP20	IP20	IP20	IP20	IP20
Cable Cross Sections	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG
Ambient Conditions	Max.95%	Max.95%	Max.95%	Max.95%	Max.95%
Schematics					

Type	DNPT	POWYS 3121	POWYS 3111	POWYS 3101	POWYS 3100	POWYS 1110	POWYS 1120	POWYS 1012	POWYS 1022
Schematics	Digital Output Connection	 <p>External DC Power Supply (5-30VDC)</p>							
	Digital Input Connection								
	Alarm Output Connection								
	Analog Output Connection								
Dimensional Drawings	 <p>126, 57, 91, 91</p>				 <p>36mm, 45.5mm, 62mm, 90mm, 29.1mm, 50.6mm, 57.5mm</p>				