

High-precision

High-precision transducers

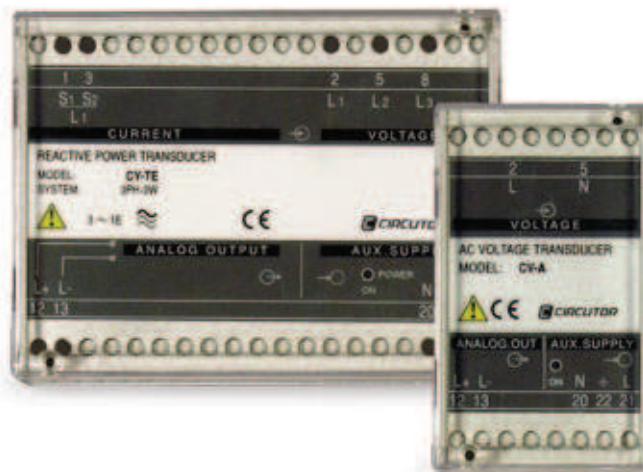
Converter of electrical parameters into process signals

Description

- Wide range of models to measure the main parameters of the electrical network.
- Very reliable and robust devices
- Valid for work under demanding conditions

Applications

- Systems for the conversion of the electrical parameters of single and three-phase networks in industrial environments where there are demanding conditions
- Conversion of electrical parameters to process signal for PLC or displays.



Features

	CV-A	CW / CY	CCOS / CPF / CFD	CC-WG	CC-D	CC-G	CF	CR2	CT-PT	CC-A	CV-D	
Power supply circuit	220...240 V ac (*1)											
Frequency	40 ... 90 Hz											
Consumption	2.5 V-A											
Measurement circuit												
Consumption	< 0.2 V-A											
Frequency	45 ... 65 Hz											
Nominal voltage (Un)	0..0.690 Vac				-		40 ... 600 Vac			-		0 mV... 500 V ac
Nominal current (In)	5 A ac		0..0.3 A ac		500 mA ... 10 A	0...20 mA					0..0.5 A ac	-
Measurement range	0...150 % U_n		0...150 %		0...120 %		0...20 kHz	0...200 k			-	
Overload (permanent)	300 %				150 %	300 %					300 %	150 %
Input impedance	3000 Ω / V				-		180 Ω / V					1000 Ω / V
Analogue output circuit												
Voltage load impedance	> 500 Ω											
Current load impedance	< 500 Ω											
Response time	< 300 ms	< 500 ms	< 300 ms	< 100 ms			< 500 ms			< 300 ms		
Rippling (TRMS)	< 0,5 %											
Insulation												
Test voltage	3 kV		2 kV		3 kV		3 kV		2 kV		2 kV	
Impulse test (1, 2...50 ms)	4 kV		3 kV		4 kV		4 kV		3 kV		3 kV	
Ambient conditions												
Storage temperature	- 40 ... +70 °C											
Operating temperature	-10 ... +55 °C											
Altitude	2000 m											

Converters

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	CV-A	CW / CY	CCOS / CPF / CFD	CC-WG	CC-D	CC-G	CF	CR2	CT-PT	CC-A	CV-D
Build features											
Box material	ABS VO										
Weight (g)	310	540	310								
Ambient conditions	IEC 529, IEC 688, IEC 801, EN 50081-1, EN 50082-1										

(*1) For other types of power supply, see the coding table

References

CV-A. AC voltage transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply (see coding table)

Type of input	Measurement	Accuracy	Input	Digital	Type of measurement	Type	Code
Alternating voltage	AC	± 0.5 % reading	690 Vac	0...20 mA	Measurement in mean values	CV-A-AP (*1)	M25041
		± 0.2 % reading		0...20 mA		CV-A	M25031
		± 0.2 % reading		4...20 mA		CV-A	M25032
		± 0.2 % reading		0...20 mA	Measurement in true root mean square	CV-A-RMS	M25051
		± 0.2 % reading		4...20 mA		CV-A-RMS	M25052

(*1) Self-powered: does not need an auxiliary power supply

CC-A. Alternating current transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply (see coding table)

Type of input	Measurement	Accuracy	Input	Digital	Type	Code
Alternating current	AC	± 0.2 % reading	5 A	0...20 mA	CC-A	M25131
		± 0.2 % reading		4...20 mA	CC-A	M25132
		± 0.2 % reading		0...20 mA	CC-A-AP (1)	M25141
		± 0.2 % reading		0...20 mA	CC-A-RMS	M25151
		± 0.2 % reading		4...20 mA	CC-A-RMS	M25152

(*1) Self-powered: does not need an auxiliary power supply

CV-D. DC Voltage transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply (see coding table)

Type of input	Measurement	Accuracy	Input	Digital	Type	Code
DC Voltage	DC	± 0.2 % reading	10 mV ... 500 V	0...20 mA	CV-D	M25061
		± 0.2 % reading		4...20 mA	CV-D	M25062

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CC-D. Direct current transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply (see coding table)

Type of input	Measurement	Accuracy	Input	Digital	Type	Code
DC Voltage	DC	± 0.2 % reading	500 µA	0...20 mA	CC-D	M25161
		± 0.2 % reading	... 10 A	4...20 mA	CC-D	M25162

CC-WG. Leakage current transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply (see coding table)

Type of input	Measurement	Accuracy	Input	Digital	Type	Code
Leakage current	AC	± 0.2 % reading	0..0.3 Aac	4...20 mA	CC-WG	M25631

C-F. Frequency transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply (see coding table)

Type of input	Measurement	Accuracy	Input	Digital	Type	Code
Frequency	AC	± 0.2 % reading	40..0.690 V	0...20 mA	CF	M25531
		± 0.2 % reading	0...20 kHz	4...20 mA	CF	M25532

CC-G. Galvanic insulation transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

Type of input	Measurement	Accuracy	Input	Digital	Type	Code
Insulation galvanic	-	± 0.2 % reading	0...20 mA	0...20 mA	CC-G	M25610

CT-PT100. Temperature transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply (see coding table)

Type of input	Measurement	Accuracy	Input	Digital	Type	Code
Temperature	-	± 0.2 % reading	Depending on the sensor	0...20 mA	CT-PT100	M25651
		± 0.2 % reading		4...20 mA	CT-PT100	M25652

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References

CR-2. Resistance transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply (see coding table)

Type of input	Measurement	Accuracy	Input	Digital	Type	Code
Resistance	-	± 0.2 % reading	1...200 kΩ	0...20 mA	CR-2	M25641
		± 0.2 % reading		4...20 mA	CR-2	M25642

CW. Active power transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply, 5. (phase-phase), 6. I_n , 7. f_n (see coding table)

Type of input	Measurement	Accuracy	System	Input	Digital	Type	Code
Active power	AC	± 0.5 % reading	Single-phase	300 V.../5 A	0...20 mA	CW-M	M25211
					4...20 mA	CW-M	M25212
			Balanced three-phase		0...20 mA	CW-TE	M25221
					4...20 mA	CW-TE	M25222
			Unbalanced three-phase ARON (3 wires)		0...20 mA	CW-TA	M25231
					4...20 mA	CW-TA	M25232
			Unbalanced three-phase ARON (4 wires)		0...20 mA	CW-TAN	M25241
					4...20 mA	CW-TAN	M25242

CY. Reactive energy transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply, 5. (phase-phase), 6. I_n , 7. f_n (see coding table)

Type of input	Measurement	Accuracy	System	Input	Digital	Type	Code
Power factor	AC	± 0.5 % reading	Single-phase	300 V.../5 A	0...20 mA	CY-M	M25251
					4...20 mA	CY-M	M25252
			Balanced three-phase		0...20 mA	CY-TE	M25261
					4...20 mA	CY-TE	M25262
			Unbalanced three-phase ARON (3 wires)		0...20 mA	CY-TA	M25271
					4...20 mA	CY-TA	M25272
			Unbalanced three-phase ARON (4 wires)		0...20 mA	CY-TAN	M25281
					4...20 mA	CY-TAN	M25282

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References

CPF. Power factor transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply, 5. (phase-phase), 6. I_n , 7. f_n (see coding table)

Type of input	Measurement	Accuracy	System	Input	Digital	Type	Code
Power factor	AC	$\pm 0.5\%$ reading	Single-phase	300 V.../5 A	0...20 mA	CPF-M	M25311
					4...20 mA	CPF-M	M25312
			Unbalanced three-phase ARON (3 wires)		0...20 mA	CPF-TE	M25321
					4...20 mA	CPF-TE	M25322
			Unbalanced three-phase ARON (4 wires)		0...20 mA	CPF-TEN	M25331
					4...20 mA	CPF-TEN	M25332

CCOS. $\cos \varphi$ transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply, 5. (phase-phase), 6. I_n , 7. f_n (see coding table)

Type of input	Measurement	Accuracy	System	Input	Digital	Type	Code
$\cos \varphi$	AC	$\pm 0.5\%$ reading	Single-phase	300 V.../5 A	0...20 mA	CCOS-M	M25341
					4...20 mA	CCOS-M	M25342
			Unbalanced three-phase ARON (3 wires)		0...20 mA	CCOS-TE	M25351
					4...20 mA	CCOS-TE	M25352
			Unbalanced three-phase ARON (4 wires)		0...20 mA	CCOS-TEN	M25361
					4...20 mA	CCOS-TEN	M25362

CFD. Current distortion factor transducer

Standard auxiliary power supply: 230 Vac, 40...90 Hz

For non-standard purchase orders, please state the following:

1. Code, 2. Input range, 3. Output range, 4. Auxiliary power supply, 5. (phase-phase), 6. I_n , 7. f_n (see coding table)

Type of input	Measurement	Accuracy	System	Input	Digital	Type	Code
Distortion factor of I	AC	$\pm 0.2\%$ reading	-	5 A	0...20 mA	CFD-THD	M25411
		$\pm 0.2\%$ reading			4...20 mA	CFD-THD	M25412
		$\pm 0.2\%$ reading			0...20 mA	CFD-D	M25421
		$\pm 0.2\%$ reading			4...20 mA	CFD-D	M25422

Converters

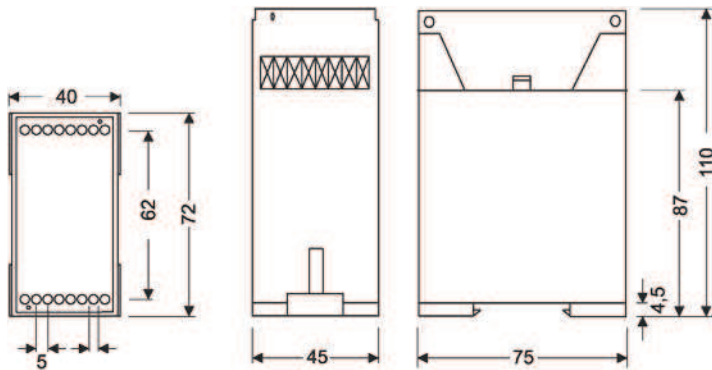
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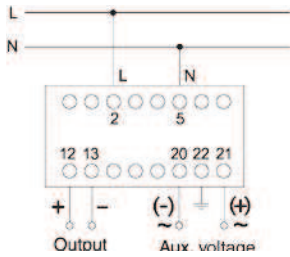
Dimensions

CV-A, CV-D, CC-A, CC-D, CR2

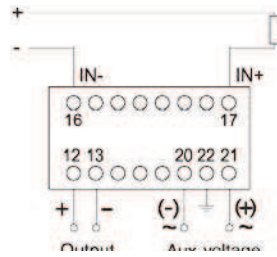


Connections

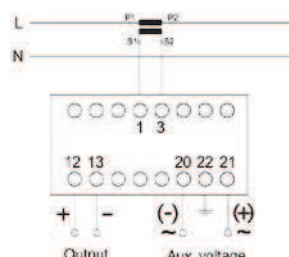
CV-A



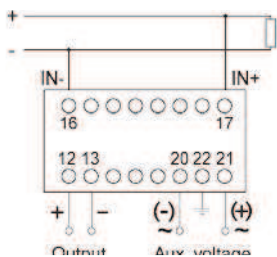
CV-D



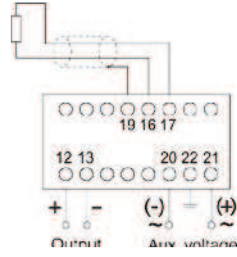
CC-A



CC-D



CR2



Converters

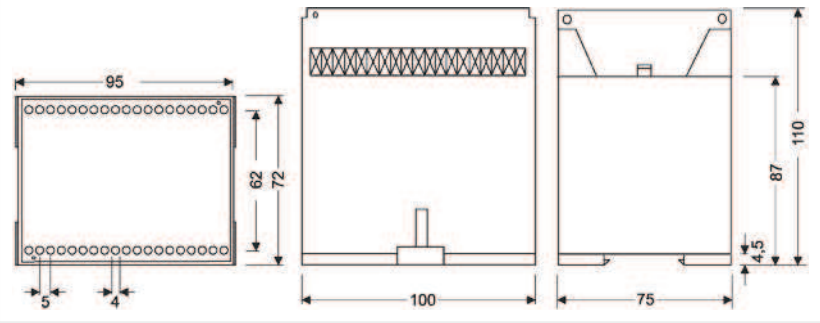
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Dimensions

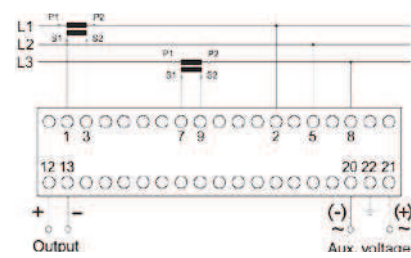
CW, CY, CPF



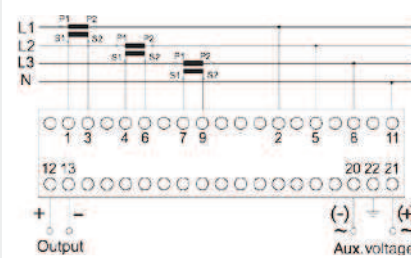
Connections

CW

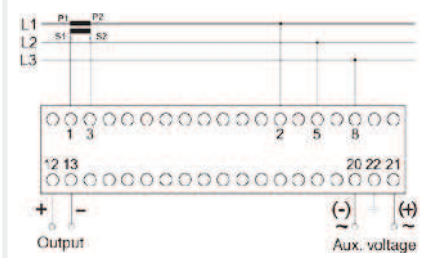
CW-TA



CW-TAN

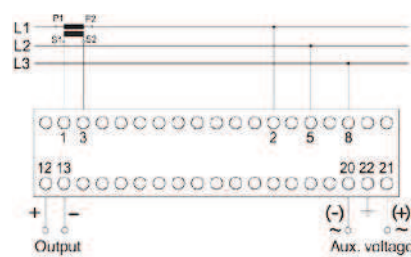


CW-TE

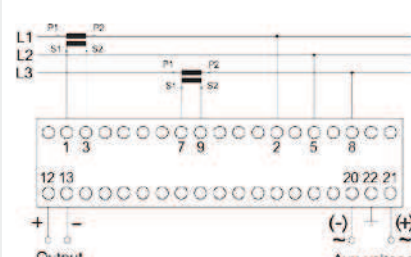


CY

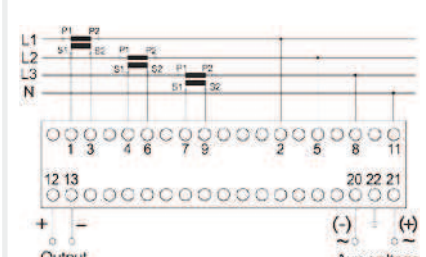
CY-TE



CY-TA

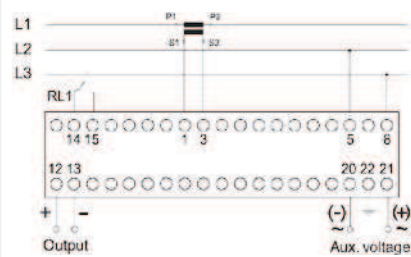


CY-TAN

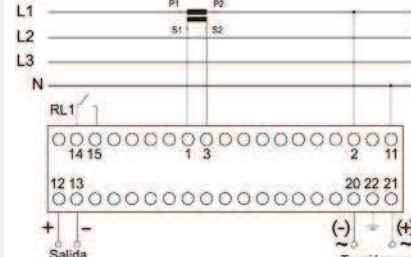


CPF

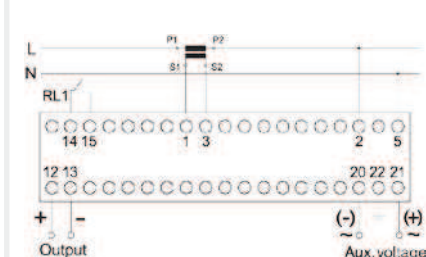
CPF-TE



CPF-TEN



CPF-M



Converters

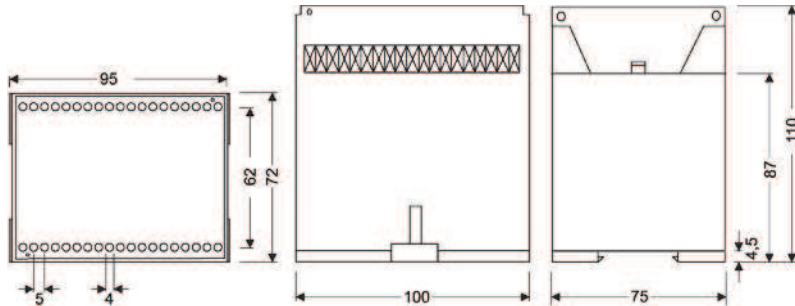
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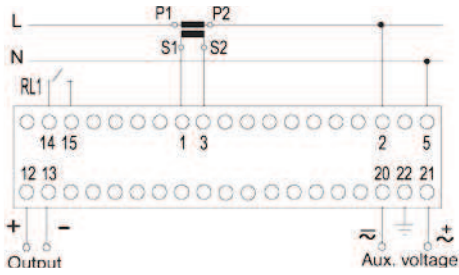
Dimensions

CCOS / CFD

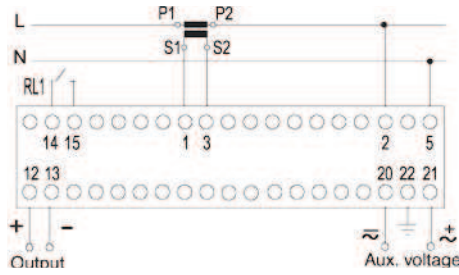


Connections

CCOS

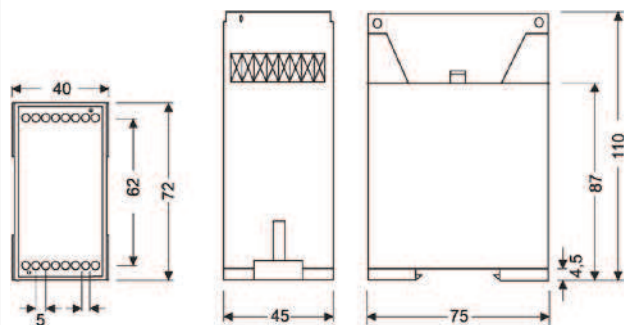


CFD-THD / CFD-D



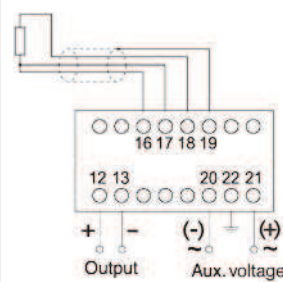
Dimensions

CT-PT100



Connections

CT-PT100



Converters

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Coding table

		M	2	X	X	X	X	0	0	X	X	X
Code		Internal Code							↑	↑	↑	
INPUTS	Alternating voltage	Standard (300 V)								0		
		110 V								1		
		400 V								2		
		500 V								3		
		690 V								4		
	Alternating current	Standard (5 A)								0		
		1 A								1		
		10 A								4		
	DC Voltage	Standard (10 V)								0		
		60 mV								1		
		1 V								2		
		100 V								3		
		500 V								4		
	Direct current	Standard (20 mA)								0		
		200 mA								1		
		1 A								2		
		10 A								3		
	Power, power factor, cos j (V, A)	Standard (300 V, .../ 5 A)								0		
		110 V, .../5 A								1		
		400 V, .../5 A								2		
		500 V, .../5 A								3		
		600 V, .../5 A								4		
		300 V, .../1 A								5		
		110 V, .../1 A								6		
		400 V, .../1 A								7		
		500 V, .../1 A								8		
	600 V, .../1 A								9			
	Distortion I	Standard (5 A)								0		
		1 A								1		
	Leakage current, Universal process									0		
	Resistance	Standard (20 Ω)								0		
		200 Ω								1		
2 kΩ									2			
20 kΩ									3			
Temperature	Standard (-200...+200 °C)								0			
	-200 ... +800 °C								1			
Frequency	Standard (45...55 Hz)								0			
	55...65 Hz								1			
	47..0.53 Hz								2			
	57...63 Hz								3			
	0..0.100 Hz								4			
OUTPUTS	Outputs 1, 3	Standard (0...20 mA)								0		
		0..0.1 mA								1		
		0..0.10 mA								2		
		2 V								3		
		5 V								4		
		0..0.10 V								5		
		-20...0...20 mA								6		
		-10...0...10 V								7		
		-5...0..0.5 V								8		
Outputs 2	Standard (4...20 mA)								0			
	2..0.10 V								2			
Auxiliary power supply	Standard (220...240 V)								0			
	380...40 Vac 40/60 Hz								3			
	18...36 Vdc								7			
	90..0.140 Vdc								9			