

# Designed to monitor.

## First measure, then optimize: Fronius Smart Meter

Visualize, control, and optimize energy flows: efficient energy management is only possible if the right data is available. And this is exactly what the Smart Meter – our bidirectional and intelligent electricity meter for photovoltaic systems – quickly, reliably, and accurately provides.

**Fronius Smart Meter. Designed to monitor.**

### **01 Data with added value**

The basis for photovoltaic system optimization: our bidirectional Smart Meters measure all energy flows that come from the grid or flow into the grid, allowing them to gather valuable information quickly, reliably, and precisely. When used properly, the data has the real added value of money savings for photovoltaic system owners.

### **02 Savings included**

Save money and energy over the long term: this is made possible by our Smart Meters as essential accessories in combination with the inverter and Fronius Solar.web, our online monitoring tool. Energy flows can be visualized, controlled, and therefore also optimized. This is how efficient energy management based on data works.

### **03 Ready for anything**

Something for everyone: our variety of Smart Meter products covers the entire range of applications – whether for residential or commercial use.



## Fronius Smart Meter IP\*

The intelligent electricity meter with LAN and WLAN connection.

			Fronius Smart Meter	
			IP	
Technical Data	Nominal voltage	V	100 - 240 (3 x 208 - 480)	
	Operating voltage range	%	-10 to +10	
	nominal frequency	Hz	50 - 60	
	maximum current	A	5,000	
	Power line cross section	mm <sup>2</sup>	1.5 - 4	
	Neutral line cross section	mm <sup>2</sup>	1.5 - 4	
	CT's & Communication line cross section	mm <sup>2</sup>	0.25 - 2.5	
	Power consumption	W	2	
	Starting current	mA	20 (max. 30)	
	Accuracy class		1	
	Active energy accuracy		Class 1 (EN 62053-21) / Class B (EN 50470-3)	
	Reactive energy accuracy		Class 2 (EN 62053-23)	
	Short-time overcurrent		3 x I <sub>max</sub> / 20 s	
	Mounting		Indoors (DIN rail)	
	Housing		3 modules DIN 43880	
	Degree of protection		IP20 (front frame), IP30 (terminals)	
	Ambient temperature range	°C	-25 to +55	
	Dimensions (height x width x depth)	mm	90 x 53 x 58	
Weight	g	132		
Interface to inverter		Modbus RTU (RS485), Modbus TCP (WiFi, LAN)		
Current Transformers		Primary: 1 - 5,000 A / secondary: use only CTs with voltage output 333 mV		



## Fronius Smart Meter\*

The intelligent electricity meter for residential and commercial use.

			Fronius Smart Meter		
			63A-3	50kA-3	63A-1
Technical Data	Nominal voltage	V	230 - 400	400 - 415	230 - 240
	Operating voltage range	%	-15 to +15	-9 to +14	-10 to +10
	nominal frequency	Hz	50 - 60	50 - 60	50 - 60
	maximum current	A	3 x 63	3 x 50,000	1 x 63
	Power line cross section	mm <sup>2</sup>	1 - 16	0.05 - 4	1 - 16
	Neutral line cross section	mm <sup>2</sup>	1 - 16	0.05 - 4	1 - 16
	CT's & Communication line cross section	mm <sup>2</sup>	0.05 - 4	0.05 - 4	0.05 - 4
	Power consumption	W	1.5	2.5	1.5
	Starting current	mA		40	
	Accuracy class		1	1	1
	Active energy accuracy		Class B (EN50470)		
	Reactive energy accuracy		Class 2 (EN/IEC 62053-23)		
	Short-time overcurrent		30 x I <sub>max</sub> / 0.5 s	30 x I <sub>max</sub> / 0.5 s	30 x I <sub>max</sub> / 0.5 s
	Mounting		Indoors (DIN rail)		
	Housing		4 modules DIN 43880	4 modules DIN 43880	2 modules DIN 43880
	Degree of protection		IP 51 (front frame), IP 20 (terminals)		
	Ambient temperature range	°C	-25 to +55	-5 to +55	-25 to +55
	Dimensions (height x width x depth)	mm	89.0 x 71.2 x 65.6	89.0 x 71.2 x 65.6	89.0 x 35.0 x 65.6
Weight	g	260	260	250	
Interface to inverter		Modbus RTU (RS485)			
Display		8-digit LCD	8-digit LCD	6-digit LCD	
Current Transformers			Primary: 1 - 50,000 A / secondary: use only CT with current output 5 A		

\* depending on country specific availability and certification



## Fronius Smart Meter TS\*

The intelligent electricity meter with touchscreen operation.

			Fronius Smart Meter		
			TS 100A-1	TS 65A-3	TS 5kA-3
Technical Data	Nominal voltage	V	230	208 - 400	400 - 480
	Operating voltage range	%	-30 to +20	-20 to +20	-20 to +15
	nominal frequency	Hz	45 - 65	45 - 65	45 - 65
	maximum current	A	1 x 100	3 x 65	3 x 5,000
	Power line cross section	mm <sup>2</sup>	1 - 25	1 - 16	1 - 4
	Neutral line cross section	mm <sup>2</sup>	1 - 25	1 - 16	1 - 4
	CT's & Communication line cross section	mm <sup>2</sup>	0.05 - 1.5	0.05 - 1.5	0.05 - 1.5
	Power consumption	W	<=1	<=1	<=1
	Starting current	mA	40	20	10
	Accuracy class		1	1	1
	Active energy accuracy		Class 1 (EN 62053-21) / Class B (EN 50470-3)		
	Reactive energy accuracy		Class 2 (EN 62053-23)		
	Short-time overcurrent		3,000 A / 10 ms	1,950 A / 10 ms	30 A / 500 ms
	Mounting		Indoors (DIN rail)		
	Housing		2 modules DIN 43880	3 modules DIN 43880	3 modules DIN 43880
	Degree of protection		IP 51 (front frame), IP 20 (terminals)		
	Ambient temperature range	°C	-25 to +65		
	Dimensions (height x width x depth)	mm	91.5 x 35.8 x 63.0	91.5 x 53.8 x 63.0	91.5 x 53.8 x 63.0
	Weight	g	160	240	240
Interface to inverter		Modbus RTU (RS485)			
Display		3 x 8 digit / Touchscreen			
Current Transformers				Primary: 1 - 5,000 A / secondary: use only CT with current output 5 A	



## Fronius Smart Meter WR\*

The intelligent electricity meter with current transformer control.

			Fronius Smart Meter		
			WR 100-600 V-3		
Technical Data	Nominal voltage	V	120 - 600		
	Operating voltage range	%	-15 to +15		
	nominal frequency	Hz	45 - 65		
	maximum current	A	3 x 6,000		
	Power line cross section	mm <sup>2</sup>	up to 2.5		
	Neutral line cross section	mm <sup>2</sup>	up to 2.5		
	CT's & Communication line cross section	mm <sup>2</sup>	up to 2.5		
	Power consumption	W	1.75		
	Starting current	mA	40		
	Accuracy class		0.5		
	Active energy accuracy		ANSI C12.20 class 0.5 and ANSI C12.1 accuracy		
	Mounting		Indoor: Wall-mounted; Outdoor: If mounted inside an electrical enclosure that is rated NEMA 3R or 4 / IP 66		
	Degree of protection		IP40		
	Ambient temperature range	°C	-40 to +80		
	Dimensions (height x width x depth)	mm	153 x 85.1 x 38.0 (6.02 in x 3.35 in x 1.50 in)		
Weight	g	233			
Interface to inverter		Modbus RTU (RS485)			
Current Transformers		Primary: 1 - 6,000 A / secondary: use only CTs with voltage output 333 mV			

\* depending on country specific availability and certification

# Current transformers for Fronius Smart Meters

## Flexible measurements

Risk-free photovoltaic optimization: In large PV systems, high output current can no longer be recorded with Smart Meters that measure directly. The Fronius Smart Meter CT current transformer alters the current into a signal that is reliably measured and converted. Installing the Fronius Smart Meter CT is especially convenient. Thanks to the split-core technology, the current transformer can be placed around the conductor without having to disconnect the cable for installation.



		Fronius Smart Meter CT A					
		100A/5A	150A/5A	200A/5A	250A/5A	400A/5A	
Technical data	Compatible Fronius Smart Meters	Fronius Smart Meter TS 5kA-3 Fronius Smart Meter 50kA-3					
	Accuracy	1 <sup>1</sup>					
	Type of installation	Split-core					
	Dimensions (height x width x depth)	mm	66.5 x 45 x 34.4			81.5 x 57 x 38.4	
	Diameter	mm	24			36	
	Cable length	m	1				
	Temperature range	°C	-40 to +65				

Apparent ohmic resistance	Class 1	VA	Fronius Smart Meter CT A				
			100A/5A	150A/5A	200A/5A	250A/5A	400A/5A
			0.3	1	1	2.5	5

<sup>1</sup> Depending on the apparent ohmic resistance



		Fronius Smart Meter CT V			
		100A/333mV	250A/333mV	400A/333mV	
Technical data	Compatible Fronius Smart Meters	Fronius Smart Meter WR 100-600 V-3 Fronius Smart Meter IP			
	Accuracy	1			
	Type of installation	Split-core			
	Dimensions (height x width x depth)	mm	46 x 31.5 x 31.5	66.5 x 45 x 34.4	81.5 x 57 x 38.4
	Diameter	mm	16	24	36
	Cable length	m	1		
	Temperature range	°C	-40 to +65		