Fronius Tauro

Designed to perform

The three-phase Fronius Tauro in the 50 kW power class promises maximum performance, even under the harshest conditions. With its smart hardware design, it not only contributes to BOS cost optimization, but also offers unprecedented flexibility in system design. The Fronius Tauro can be used to implement sophisticated roofs in both centralised (P variant) and decentralised system designs (D variant). Simplest installation and the fastest service on the market also guarantee maximum safety.
Fronius Tauro. Designed to perform.

Please choose your desired product.

Tauro 50-3-D

Technical Data

Input Data

Number of MPP trackers	3
Max. input current ($I_{dc\ max\_inverter}$)	134 A
Feed-in start voltage ($U_{dc\ start}$)	200 V
Max. PV generator power ($P_{dc\ max}$)	75 kWpeak
MPP voltage range ($U_{mpp\ min}$ - $U_{mpp\ max}$)	400 - 870 V [9)]
Max. input current PV1 ($I_{dc\ max,\ PV1}$)	36 A
Max. input current PV2 ($I_{dc\ max,\ PV2}$)	36 A
Max. input current PV3 ($I_{dc\ max,\ PV3}$)	72 A
Max. short-circuit current PV1 ($I_{sc\ max,\ PV1}$)*	72 A
Max. short-circuit current PV2 ($I_{sc\ max,\ PV2}$)*	72 A
Max. short-circuit current PV3 ($I_{sc\ max,\ PV3}$)*	125 A
Max. power PV system PV1 ($P_{dc\ max,PV1}$)	25 kWpeak
Max. power PV system PV2 ($P_{dc\ max,\ PV2}$)	25 kWpeak
Max. power PV system PV3 ($P_{dc\ max,\ PV3}$)	50 kWpeak
Max. AC fuse size rating	355 A
Max. short-circuit current inverter ($I_{sc\ max,\ inverter}$)	240 A
Max. short-circuit current string ($I_{sc\ max,\ string}$)	20 A
Max. input current string ($I_{dc\ max,\ String}$)	14,5 A
Number of DC connections PV1	4
Number of DC connections PV2	3
Number of DC connections PV3	7

Max. short-circuit current string ($I_{sc\ max,\ string}$) - *30 A Option*	30 A
Max. input current string ($I_{dc\ max,\ String}$) - *30 A Option*	22 A
Number of DC connections PV1 - *30 A Option*	4
Number of DC connections PV2 - *30 A Option*	5
Number of DC connections PV3 - *30 A Option*	5

Output Data

AC nominal output ($P_{ac,r}$)	50 kW
Max. output power ($P_{ac\ max}$)	50 kVA
AC output current ($I_{ac\ nom}$)	75.8A at 220Vac , 72.5A at 230Vac
Grid connection ($U_{ac,r}$)	3~ NPE 380/220 , 3~ NPE 400/230 V
AC voltage range (U_{min} - U_{max})	180 - 270 V
Frequency (f_r)	50/60 Hz
Frequency range (f_{min} - f_{max})	45 - 65 Hz
Power factor ($\cos \varphi_{ac,r}$)	1 ind./cap.
Max. DC fuse protection	20 A

General Data

Mains Frequency	Hz
Dimension / width	1109 mm
Dimension / height	755 mm
Dimension / depth	346,2 mm
Weight	98 kg

Weight incl. packaging	117 kg
Degree of protection	IP65
Protection class	1
Overvoltage category (DC / AC) [1)]	2 / 3
Night-time consumption	15 W
Installation	Indoor and outdoor [4)]
Ambient temperature range	-40°C - +65°C (optional AC-disconnect: from - 30 to + 65 °C)
Permitted humidity	0-100 %
Max. altitude	4000 m
Certificates and compliance with standards	VDE-AR-N 4105, VDE-AR-N 4110, IEC 62109-1/-2, IEC 62116, IEC 61727 R25, AS/NZS 4777, CEI 0-16, CEI 0-21, EN 50549-1/-2, VDE 0126-1-1 [8)]
Inverter design	Transformerless
Cooling	Active Cooling Technologie and Double-Wall System
Sound emissions	68,4 dB(A)
Interference emission class	B

Efficiency

Max. efficiency (PV - grid)	98,5 %
European efficiency (ηEU)	97,8 / 98,3 / 97,9 / 97,7 (400Vdc / 600Vdc / 800Vdc / 870Vdc)
η at 5% $P_{ac,r}$ [3)]	94,90 / 96,52 / 92,87 / 91,80 (400Vdc / 600Vdc / 800Vdc / 870Vdc)

η at 10% $P_{ac,r}$ [3]	97,33 / 97,91 / 96,54 / 95,68 (400Vdc / 600Vdc / 800Vdc / 870Vdc)
η at 20% $P_{ac,r}$ [3]	98,04 / 98,45 / 97,90 / 97,63 (400Vdc / 600Vdc / 800Vdc / 870Vdc)
η at 25% $P_{ac,r}$ [3]	97,86 / 98,44 / 98,07 / 97,88 (400Vdc / 600Vdc / 800Vdc / 870Vdc)
η at 30% $P_{ac,r}$ [3]	97,92 / 98,51 / 98,14 / 98,05 (400Vdc / 600Vdc / 800Vdc / 870Vdc)
η at 50% $P_{ac,r}$ [3]	97,99 / 98,48 / 98,24 / 98,17 (400Vdc / 600Vdc / 800Vdc / 870Vdc)
η at 75% $P_{ac,r}$ [3]	97,86 / 98,35 / 98,17 / 98,10 (400Vdc / 600Vdc / 800Vdc / 870Vdc)
η at 100% $P_{ac,r}$ [3]	97,63 / 98,16 / 98,04 / 97,99 (400Vdc / 600Vdc / 800Vdc / 870Vdc)

Protection Devices

DC insulation measurement	Included
Overload behaviour	Operating point shift. Power limitation [5]
DC disconnector	Included
Integral RCMU	Included
Overvoltage protection devices	Type 1 + 2 integrated, Type 2 optional [6]
DC string fusing	integrated, 15 A or 20 A

Interfaces

Ethernet LAN RJ45	10/100Mbit max. 100m Fronius Solar.web, Modbus TCP Sunspec, Fronius Solar API (JSON) [7)]
6x digital in/out + 6x digital in	Programmable interface for ripple control receiver, energy management, load control (Inputs: Voltage level low: min. 0V - max. 1.8V high: min. 4,5V - max. 28,8V / Input resistance: 70kOhm Outputs: 5 Watt @ 12V in total for all six digital outputs when supplied internally in case of no load on the USB Port. 1A @ >12,5V to 24V per digital output when supplied externally by an external power supply but in total max. 3A)
Emergency stop (WSD)	Yes
Datalogger and web server	Included [7)]
WLAN	Fronius Solar.web, Modus TCP Sunspec, Fronius Solar API (JSON)
2x RS485	Modbus RTU Sunspec

AC Connection Technology

Cable cross section	35 - 240 mm^2
Conductor material	Al Cu
Connection terminals	Cable lug or V clamps
Single core option (single core cable)	Cable gland: 5 x M40 (10 - 28 mm)
Multi core option (multi core cable)	Cable gland: 1 x multi core connection Ø 16 - 61.4 mm + 1 x M32 (10 - 25 mm)

AC Daisy Chaining option (single core cable)	Cable gland: 10 x M32 (10 - 25 mm)

DC Connection Technology

Cable cross section	4 - 6 mm^2
Conductor material	Cu
Connection terminals	DC direct connection, Stäubli Multi Contact MC4