

# BPT-S 3-4.6

## String inverter

Specifications



**BOSCH**



- ▶ **Simplified commissioning thanks to RFID**
- ▶ **Remote diagnostics during servicing**
- ▶ **Integrated data logger**
- ▶ **Maintenance-free cooling concept**
- ▶ **Optimal efficiency thanks to transformerless topology**
- ▶ **Innovative, high-quality and elegant housing**



red dot award 2015  
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The single-phase string inverters of the BPT-S series set new standards in terms of ease of use and analysis opportunities. New communication interfaces allow fast and fault-free commissioning, along with simplified remote analysis.

### **Commissioning with the e.Key**

Thanks to touchless RFID technology, the installer is able to set the valid country parameters in seconds during the initial operation of a Bosch inverter.

The e.Key, just the size of a credit card, is held up to the marked field in order to transfer the data. This rules out any faults in the settings.

### **High level of flexibility and increased safety**

The wide entry voltage range of 170V to 750V ensures very high flexibility in the planning of the PV generator. Additionally, the number of MPP trackers is optimally set to the performance of the solar modules. Together with the new MPP procedure, this allows the highest yields. The innovative and intelligent service switch provides additional operational safety. Before switching, the inverter checks the installation on the DC and AC side. If an error message is issued during operation, the photovoltaic generator is automatically disconnected from the inverter.

### **Integrated data logger**

The integrated data logger function records all data and makes it available in graphical form in the e.Web monitoring portal. Additionally, a visualisation is possible on smartphones with the e.UserApp. Along with the display of performance data, individual parameters are also available via the internet. The equally integrated set-up tool e.Data helps to avoid service calls or to more precisely plan them in advance.

### **Improved cooling concept**

The new maintenance-free cooling concept PowerCool optimises the heat distribution of the inverter. The innovative cooling concept and the use of components that meet the stringent Bosch quality requirements extend the service life of the inverters. Theft protection is integrated into an easy to use installation of the inverters. Completed by the Bosch service concept, the continuously seamless operation of the photovoltaics system is realisable.

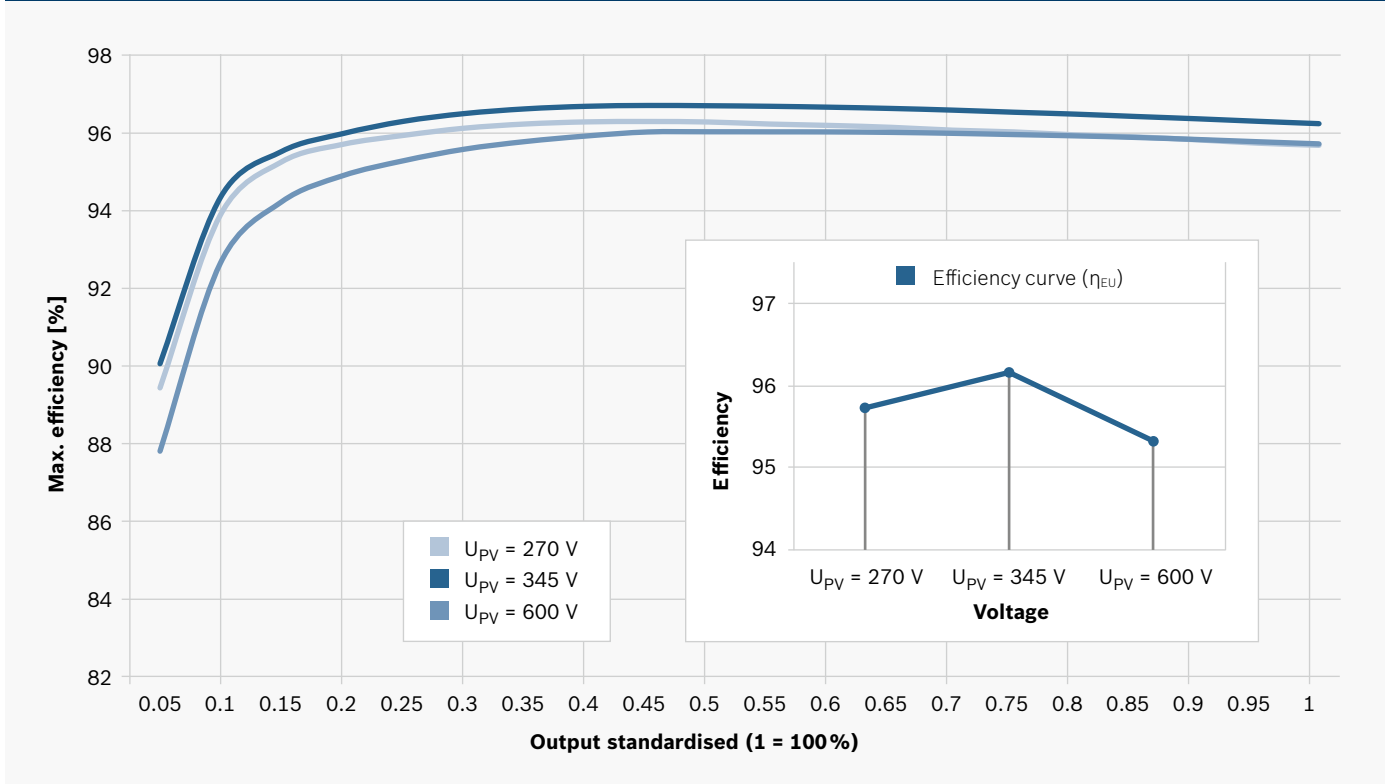


Type	BPT-S 3	BPT-S 3.68	BPT-S 4*	BPT-S 4.6
<b>Electrical data input (DC)</b>				
PV power with 1.15 design ratio	3.4 kWp	4.2 kWp	4.6 kWp	5.3 kWp
Max. DC input power per MPP tracker	3.2 kW	3.9 kW	3.9 kW	3.9 kW
Max. permitted input voltage	750 V	750 V	750 V	750 V
Max. MPP voltage	600 V	600 V	600 V	600 V
MPP voltage range	170–600 V	170–600 V	170–600 V	170–600 V
Min. input voltage/start voltage	125 V / 170 V	125 V / 170 V	125 V / 170 V	125 V / 170 V
Min. MPP voltage (in accordance with DIN EN 50524)	270 V	330 V	2 x 180 V	2 x 210 V
Max. MPP input current per input	11.6 A	11.6 A	11.6 A	11.6 A
Max. permitted input current	16.3 A	16.3 A	16.3 A	16.3 A
Number of independent MPP trackers	1	1	2	2
DC connections	1 x 1	1 x 1	2 x 1	2 x 1
DC connection design	SUNCLIX, incl. DC mating plug			
Compatibility with PV modules	c-Si, CIS (unearthed PV generator)			
Maximum feedback current of the inverter in the photovoltaic system	0 A	0 A	0 A	0 A
<b>Electrical data output (grid)</b>				
Voltage range	184–265 V	184–265 V	184–265 V	184–265 V
Measured grid voltage	230 V	230 V	230 V	230 V
Max. output current	13.0 A	16.0 A	17.4 A / 16.0 A*	20.0 A
Maximum AC output error current	100 A for 1s	100 A for 1s	100 A for 1s	100 A for 1s
Rated power	3.0 kW	3.68 kW	4.0 kW / 3.68 kW*	4.6 kW
Max. apparent power	3.0 kVA	3.68 kVA	4.0 kVA / 3.68 kVA*	4.6 kVA
Frequency range	45–55 Hz	45–55 Hz	45–55 Hz	45–55 Hz
Power factor (cos φ)	0.9 inductive ... 0.9 capacitive			
compatible grid types	TN grid / TT grid	TN grid / TT grid	TN grid / TT grid	TN grid / TT grid
AC connection	AC plug	AC plug	AC plug	AC plug
Maximum excess current protection at the AC output	20 A	20 A	25 A	25 A
Type of infeed	single-phase	single-phase	single-phase	single-phase
AC output alternating current (switch-on current)	0 A	0 A	0 A	0 A
Distortion factor	< 4.5 %	< 4.5 %	< 4.5 %	< 4.5 %
Maximum permitted grid impedance for cos φ = 1 ( Z <sub>max</sub>   / EN 61000-3-11)	–	–	–	0.44 Ω
Standby/night-time power consumption	approx. 1 W	approx. 1 W	approx. 1 W	approx. 1 W
Topology	transformerless			
<b>Conversion efficiency</b>				
Max. efficiency factor	97 %	97 %	97 %	97 %
EU efficiency factor	96.2 %	96.3 %	96.5 %	96.5 %
<b>Protective devices</b>				
Short-circuit and fault current monitoring	Integrated (isolation measurement and fault current protective switch sensitive to universal current according to EN 62109-2)			
DC circuit breaker	Integrated (electromechanical)			
DC reverse polarity protection	Integrated (autom. measurement of DC voltage prevents switching during incorrect polarity)			
DC input surge diverter	Varistors class 3			
Overvoltage category (according to IEC 60664-1)	III (AC side)/II (DC side)			
Protection class (in accordance with IEC 62103)	Class I	Class I	Class I	Class I

\* If UK G83/2 certification is activated

Type	BPT-S 3	BPT-S 3.68	BPT-S 4	BPT-S 4.6
<b>Conformity and standards</b>				
Fulfilled requirements / clearance at hand	VDE AR-N 4105:2011, VDE 0126-1-1:2013			
Interference emission / immunity to interference (EMC)	DIN EN 61000-6-2:2006 + A1:2011, DIN EN 61000-6-3:2006 + A1:2011			
Device safety	DIN EN 62109-1:2010, DIN EN 62109-2:2011, EN 60950-1:2011			
Conformity and approval	CE	CE	CE	CE
Radio regulations	ETSI EN 301489-1:2011, ETSI EN 301489-3:2002, ETSI EN 300330-2:2010, ETSI EN 302291-2:2005			
Connection option for ripple control receiver	In connection with optional accessories			
<b>Mechanical data</b>				
Dimensions in mm (L x W x H)	620 x 414 x 170	620 x 414 x 170	620 x 530 x 180	620 x 530 x 180
Weight (without accessories and packaging)	17 kg	17 kg	25 kg	25 kg
Housing material	High-quality special plastic			
Installation type	Wall installation with wall bracket			
Protection type (in accordance with EN 60529)	IP65	IP65	IP65	IP65
Climate class	4K6	4K6	4K6	4K6
Cooling	free convection	free convection	free convection	free convection
<b>Environmental / ambient conditions</b>				
Permitted operating range	-25 to +60 °C			
Excess temperature behaviour	continuous power reduction (derating)			
Relative humidity	4 to 100 % (climate class 4K6), non-condensing			
Installation altitude above sea level	up to 3000 m above sea level			
Installation location	inside & outside			
<b>Reliability</b>				
Manufacturer's warranty	5 years			
<b>Communications</b>				
Monitoring settings	integrated data logger			
Display	LCD (2x 16 characters), backlit, status LEDs			
Operation	Contactless gesture control			
Interfaces	1x Ethernet, RFID	1x Ethernet, RFID	2x Ethernet, RFID	2x Ethernet, RFID
Connection to online portal	via Ethernet (encrypted)			

Efficiency curves BPT-S 3



**Bosch Power Tec GmbH**

Herrenberger Straße 130  
 71034 Böblingen  
 Germany  
 Info.BoschPowerTec@de.bosch.com  
**www.bosch-power-tec.com**

available at