

AE 3TL 40/46 kW

String inverters for large systems



- ✓ High return on investment
- ✓ Lightweight
- ✓ Robust construction

Performance and reliability are what counts in large PV systems. The new string inverter AE 3TL 40/46 offers both. It is available in two performance classes: With 40 kW for 400 V AC voltage and with 46 kW for 460 V AC voltage. The AE 3TL complies with protection class IP65, is passively cooled and as such requires no maintenance – a reliable partner for decentralized outdoor concepts.

Both versions are equipped with Ultra-Eta topology. Even with partial loads, the efficiency of the AE 3TL is over 98 %. This speeds up the return on investment. 4-channel string monitoring and the integrated data logger allow you to keep track of yields at all times.

DC string fuses are already integrated in the DC connection box and the devices are light and handy despite their hefty advantages. This makes installation and operation very simple. You can also optionally fit the inverter with a DC overvoltage protection.

TECHNICAL DATA**AE 3TL 40****AE 3TL 46****Art. no.**

840R040.000

840R046.000

DC-DATA

Recommended max. PV power, kWp	48	55.2
MPPT range, V	490 ... 850	575 ... 850
DC start voltage, V	350	350
Max. DC voltage, V	1000	1000
Max. DC operating current, A	84.0	82.0
Max. short circuit current of panels	128	128
MPP trackers	1	1
Number of DC inputs	4 x Plus, 4 x Minus	4 x Plus, 4 x Minus
Type of DC inputs	4 x Phoenix Sunclix®	4 x Phoenix Sunclix®
Max. DC current per DC input, A	32	32
DC disconnection switch	Integrated in connection box	Integrated in connection box
String monitoring	4 measuring channels integrated	4 measuring channels integrated

AC-DATA

AC Nominal power, kW	40.0	46.0
Max. apparent power, kVA	40.0	46.0
AC grid connection	L1, L2, L3, N, PE	L1, L2, L3, N, PE
Nominal power factor / range	1 / 0.8i ... 0.8c	1 / 0.8i ... 0.8c
Nominal voltage AC, V	400	460
Voltage range AC, V	320 ... 529	368 ... 529
Nominal frequency / frequency range, Hz	50, 60 / 45...65	50, 60 / 45...65
Max. current AC, A	3 x 59	3 x 59
Max. THD, %	< 3	< 3
Max. fuse AC, A	70	70
AC circuit breaker	External	External
Max. efficiency, %	98.2	98.3
European efficiency, %	97.8	98.1
Feed-in from, W	50	50
Self consumption night, W	< 0.5	< 0.5

PROTECTION, AMBIENT CONDITIONS

Cooling	Natural convection	Natural convection
Ambient temperature, °C	-25 ... +55	-25 ... +55
Relative air humidity, %	4 ... 100	4 ... 100
Elevation (m above sea level)	4000*	4000*
Noise, dBA	< 45	< 45
Internal overvoltage protection (EN 61643-11)	Type 3, Type 2 optionally in DC connection box	Type 3, Type 2 optionally in DC connection box
String fuses	In DC connection box	In DC connection box
Protection class (IEC 62103)	I	I
Overvoltage category (EN 60664-1)	DC: II, AC: III	DC: II, AC: III
Environmental classification (IEC 721-3-4)	4K4H	4K4H
Soiling class (IEC 62109-6-3)	2	2
Certification, EC conformity	Current certificates can be found at http://www.advanced-energy.com/3TLcerts	
Emission	EN 61000-6-4	EN 61000-6-4
Immunity	EN 61000-6-2	EN 61000-6-2
SZS or grid protection	Acc. to VDE 0126-1-1	Acc. to VDE 0126-1-1

*Pay attention to the max. voltage DC!

No responsibility is taken for the correctness of this information. Subject to modification.

TECHNICAL DATA

AE 3TL 40

AE 3TL 46

Art. no. 840R040.000 840R046.000

GENERAL DATA

Interfaces	Ethernet, RS485, irradiation and temperature sensor, power supply to accessories, external switch-off	
Type of protection (IEC 60529)	IP65	IP65
Dimensions B x H x T, mm	760 x 820 x 300	760 x 820 x 300
Weight, kg	74.0	74.0

AE CONNECTIONBOX (OPTIONAL EQUIPMENT)

Art. no.	934R210.1850
Dimensions B x H x T, mm	410 x 310 x 130
Connection to inverter	4 x Plus, 4 x Minus Phoenix Sunclix®
No. of string connections	12 x Plus, 12 x Minus
Max. current DC per 3 strings, A	32
DC connection type	Phoenix Sunclix®
DC connection diameter, mm ²	2.5 ... 6.0
String fuses	15 A (Plus)
Optional DC overvoltage protection	Cat II module
Weight, kg	4.5



MATCHING ACCESSORIES

PRODUCT

DESCRIPTION

Overvoltage protection (Art. no. 34644)	AE 3TL 40/46 SPD Modul SCI 500 Typ II (2 x needed)
Overvoltage protection (Art. no. 34642)	AE 3TL 40/46 SPD Modul PV 500 Typ II (1 x needed)
AE WirelessConnect (Art. no. 911R002)	Wireless networking in large systems thanks to self-organizing radio network
Irradiation/temperature sensor (Art. no. 30628)	We recommend an irradiation sensor for precise monitoring of yields Direct connection to inverter possible
AE GridProtect (Art. no. 34322)	Central grid and plant protection for switching off the system via external gate or for controlling the switching off procedure on the inverter

No responsibility is taken for the correctness of this information. Subject to modification.

THE AE 3TL 40/46 INVERTER IN THE SYSTEM

MODULAR LARGE SYSTEM ARCHITECTURE

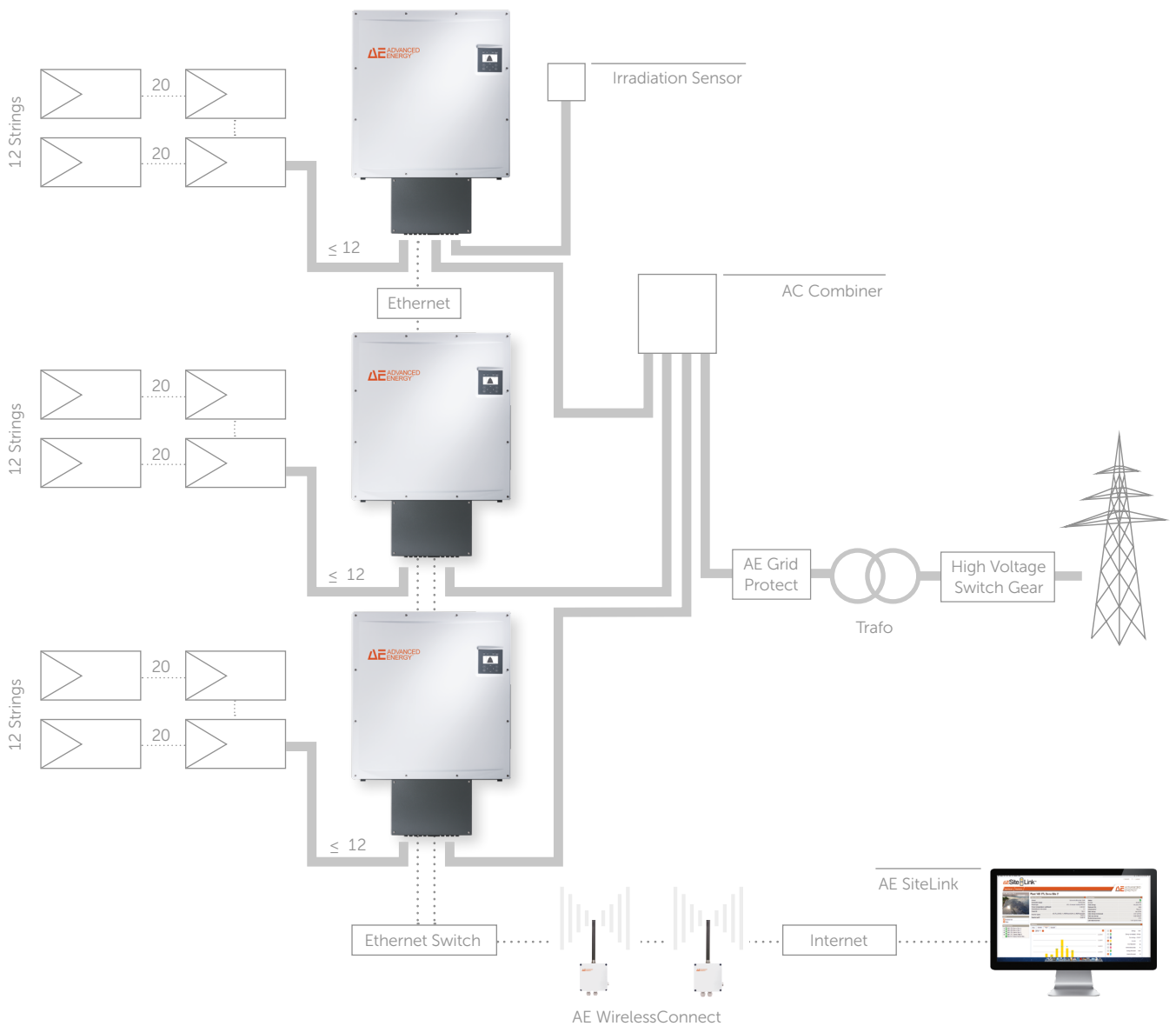
Thanks to its compact dimensions, the AE 3TL inverter can be flexibly employed in large PV systems. The system designer can decide whether to place it as close as possible to the solar modules or grouped as centrally as possible. The communication can be via Ethernet or RS485 – both already built in. Even the connection box is as flexible as the different standards.

Stay flexible with the AE 3TL 40/46 string inverter.

SYSTEM PLANNING

For optimal system planning, you can also make convenient use of our online planning tool AE Design, which lets you calculate your energy yield and energy balance in the blink of an eye. Efficient, fast, and reliable. In addition, our Utility Competence Center is always available to you for optimization suggestions in system planning, recommendations for components and the compilation of complete plans.

Contact UCC on: +49 7123 969-102



No responsibility is taken for the correctness of this information. Subject to modification.