

ΔE ADVANCED
ENERGY®



3TL 40, 46 Series Launch

Sales information 2014-10-31

3TL – optimized String Inverter for Commercial and Megawatt systems

- High power with lightweight outdoor inverter: 40 and 46 kVA
- Passive cooling – maintenance free
- High DC overload capacity
- Short Return on Invest
- DC connection options
- Assured energy yield with string monitoring



Key Specifications

Variant	40 kW	46 kW
Art. No.	840R040.000	840R046.000
Grid Voltage	400 V _{AC}	460 V _{AC}
AC power	40 kVA	46 kVA
DC range	250 ... 1000 V	250 ... 1000 V
MPP range (@Pn)	490 ... 850 V	575 ... 850 V
Efficiency	> 98%	
Weight	74 kg (ConnectionBox: 4,5 kg)	
Dimensions	760 x 820 x 300 mm	
DC inputs	1 MPP tracker, 4 String connections	



Available Certificates

Short link: <http://www.advanced-energy.com/3TLcerts>



Australia



Greece



Romania *)



Austria



Hungary



Saudi Arabia



Belgium



India



Serbia



Bulgaria



Italy



Singapore



Croatia



Latvia



Slovakia



Cyprus



Lithuania



Slovenia



Czech Republic



Luxembourg



Sweden



Estonia



Malta



Switzerland



France



Netherlands



Taiwan



Germany



Poland



Tunisia



Great Britain



Portugal *)



Turkey

*) might need additional utility listing

Datasheet

4 pages with all the details



AE 3TL 40/46 kW
Powerstring for large systems

- High return on investment
- Lightweight
- Robust construction

Performance and reliability are what counts in large PV systems. The new Powerstring inverter AE 3TL 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 Fire topology. Even with partial loads, the efficiency of the AE 3TL is over 98%. The speed up the return on investment. The 4-channel string monitoring and the integrated data logger allow you to keep track of each of 41 strings.

A DC connection box and DC string fuses are integrated. Both units are lightweight and easy to handle despite their hefty advantages. This makes installation and operation very simple. We can also optionally fit the Powerstring inverter with a DC overvoltage protection.

TECHNICAL DATA	AE 3TL 40	AE 3TL 46
Art. no.	848040300	848040300
DC-DATA		
Recommended max. PV power, kWp	48	52
MPPT range, V	100 - 550	175 - 550
DC start voltage, V	350	350
Max. DC voltage, V	1000	1000
Max. DC operating current, A	84.0	80.0
Max. short-circuit current of panels, I	178	178
MPPT 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 Contact®	4 x Phoenix Contact®
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, VA	40.0	46.0
AC grid connection	L1, L2, L3, N, PE	L1, L2, L3, N, PE
Power factor / range	1 / 0.9 - 0.95	1 / 0.9 - 0.95
Nominal voltage AC, V	400	460
Voltage range AC, V	320 - 520	390 - 520
Nominal frequency / frequency range, Hz	50 (50 / 45 - 65)	50 (50 / 45 - 65)
Max. current, A	71.50	71.50
Max. TWD, %	< 3	< 3
Max. InAC, A	70	70
AC circuit breaker	External	External
Max. efficiency, %	98.2	98.3
European efficiency, %	97.8	98.1
Level of noise, dB	50	50
Self-consumption night, W	< 0.5	< 0.5
PROTECTION AND SAFETY CONDITIONS		
Cooling	Natural convection	Natural convection
Ambient temperature, °C	-25 - +55	-25 - +55
Relative air humidity, %	4 - 100	4 - 100
Electrical fire alarm risk level	4000*	4000*
Music, dBA	< 45	< 45
Internal overvoltage protection	Type 1, Type 2 optionally in DC connection box	Type 1, Type 2 optionally in DC connection box
IEC 61643-111	3N DC connection box	3N DC connection box
String fuses	1	1
Protection class (IEC 62323)	IP65	IP65
Overvoltage category (EN 50464-3)	DC: 3, AC: II	DC: 3, AC: II
Environmental qualification (IEC 721-3-4)	40B4	40B4
Sealing class (IEC 60529-4)	2	2
Conduction, IEC conformity	Current certification can be found on our website	Current certification can be found on our website
SDS or grid protection	Acc. to VDE 0120-3-1	Acc. to VDE 0120-3-1

*By attention to the max. voltage DC!

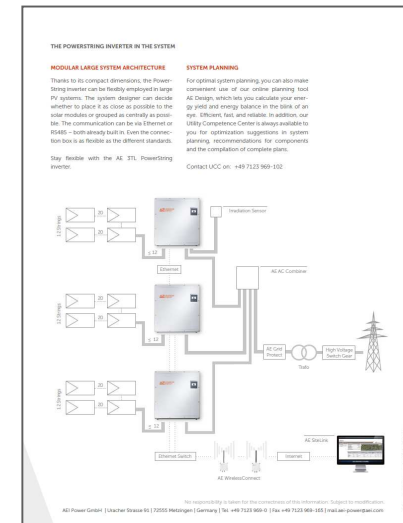


TECHNICAL DATA

	AE 3TL 40	AE 3TL 46
Art. no.	848040300	848040300
GENERAL DATA		
Mounting	Enviromat, EMS® (radiation and temperature sensor)	Enviromat, EMS® (radiation and temperature sensor)
Type of protection (IEC 60728)	IP65	IP65
Dimensions B x H x E, mm	700 x 820 x 300	700 x 820 x 300
Weight, kg	74.0	74.0
AC CONNECTION BOX		
Art. no.	958030180	
Dimensions B x H x E, mm	400 x 200 x 120	
Connection to inverter	4 x Plus, 4 x Minus Phoenix Contact®	
No. of string connections	12 x Plus, 12 x Minus	
Max. current I _C per string, A	32	
DC connection type	Phoenix Contact®	
DC connection distance, mm*	2.5 - 6.0	
String fuses	15 A PH04	
Colored DC overvoltage protection	Can be made	
Weight approx., kg	5.0	

MATCHING ACCESSORIES




PRODUCT	DESCRIPTION
Overvoltage protection	DC overvoltage protection module cat II
String fuse	12 x 15 A string fuse 1.5
AE WirelessConnect (Art. no. 9618000)	Wireless monitoring in large systems thanks to self-organizing radio network
Production/operation error	We recommend an irradiation sensor for precise monitoring of yields. Direct connection to inverter possible.
Art. no. 0039028	
AE GridProtect (Art. no. 0004221)	Central grid and plant protection for switching off the system via external grid or for controlling the switching off procedure on the inverter.



<http://solarenergy.advanced-energy.com/upload/File/Solar/Flyer/Flyer%20and%20Brochures/Datasheet AE 3TL 40-46 EN.pdf>

Manuals

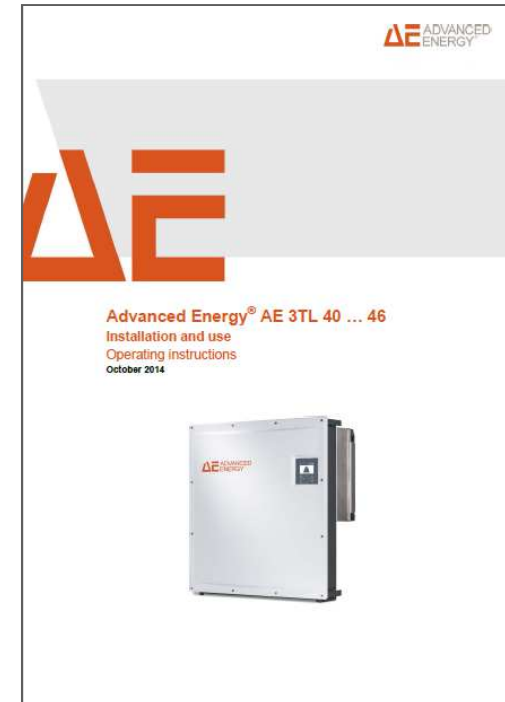
Available in:

- German 
- English 
- French 

Other languages on request
(each ~ 1500 Euro translation costs)

- Italian
- Spanish
- Portugese
- Turkish
- Korean

http://solarenergy.advanced-energy.com/en/1TL_3TL_Downloads.html



Customer Presentation

Please see in Alfresco Sales site

Alfresco Sales Site:

04_Product Documents\042_Product Information\3TL 40, 46

New DC connection system for 3TL

- SUNCLIX connection system – efficient way of wiring cables one-piece DC plug connectors
- Cross sections: 2,5 mm² ... 6 mm² or 10 mm² ... 16 mm²
- Spring force technology – consistently safe and reliable connections without special tools
- Very fast assembly of the connector
- All SUNCLIX connectors are compatible and intermateable

Assembly

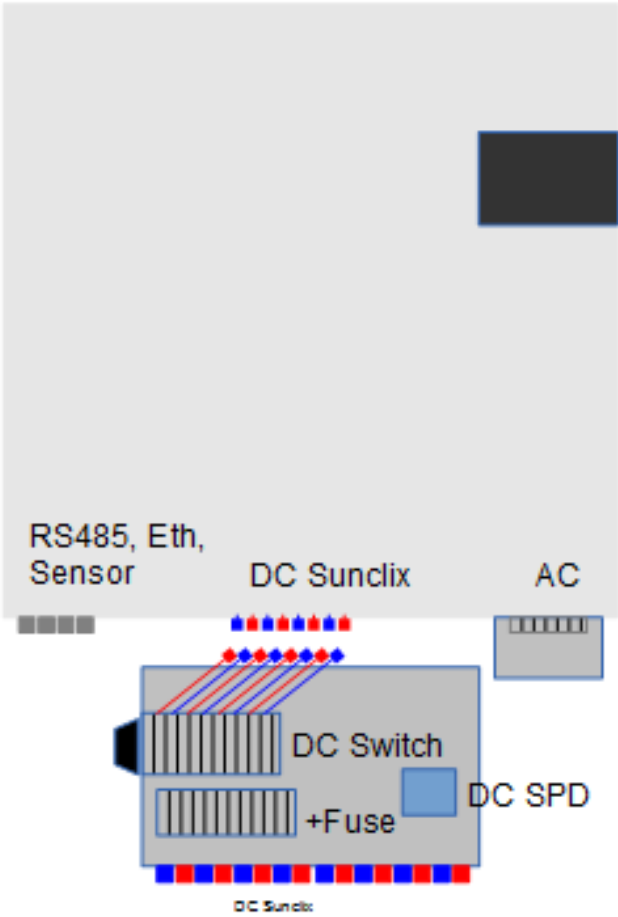


Tighten the screw connection

Unlocking



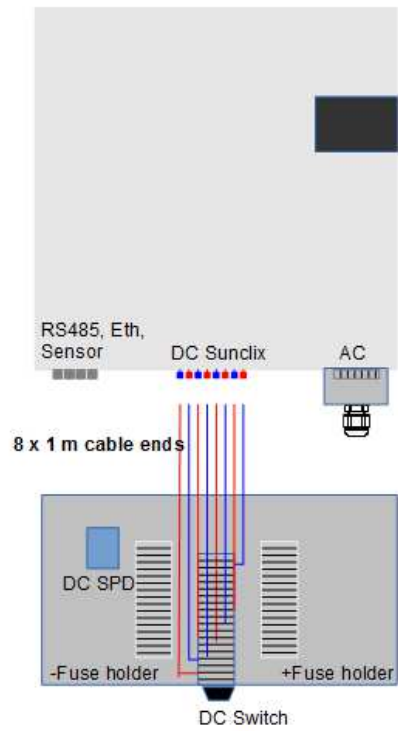
ConnectionBox Small



Available now!

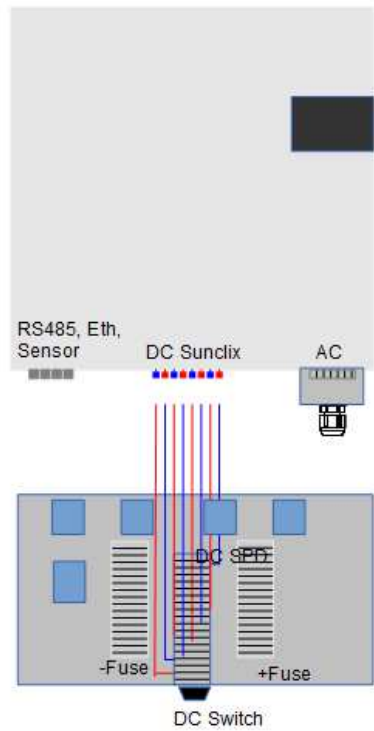
ConnectionBox Large

ConnectionBox DC-SPD II



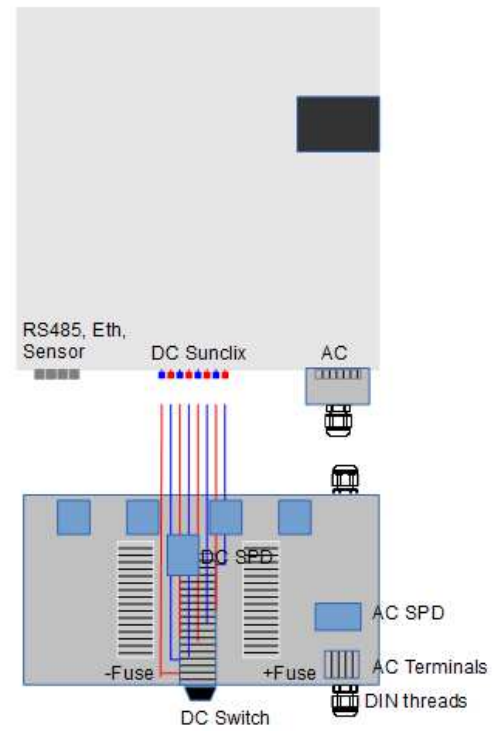
Options:
DC SPD Module Type II

ConnectionBox DC-SPD I+II



Options:
DC SPD Module Type II
DC SPD Type I+II Kombi

IEC Large DC+AC SPD



Options:
DC SPD Module Type II
DC SPD Type I+II Kombi
AC SPD

Available April 2015!

Compatibility to 3TL 8 ... 23

- Electrical specification
 - 40 kW vs. 20 kW: same DC voltage range, twice power and current
 - 46 kW vs. 23 kW: same DC voltage range, twice power and current
- Interfaces
 - RS485, Ethernet, Sensor Interface is the same as before
 - DC inputs: same as 867 series: Phoenix Sunclix. When replacing old inverters, refit Sunclix plug on the string cable or use adaptor cable.
- Network
 - 40, 46 kW can run in the same PV system as other inverters, with ethernet or RS485 connected



Pricing


- On product comparison between 40 kW vs. 20 kW resp. 46 kW vs. 23 kW, **12% less expensive per Watt**
- Putting ConnectionBox into calculation, **2% less expensive per Watt**
- Selling price down to **7 ct/W** on 46 kW!

Added value for customer

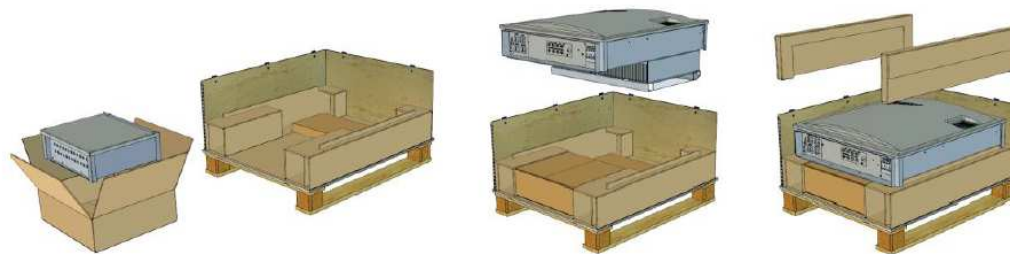
- adding features like string fusing and SPD option at no cost
- String monitoring included at no cost
- Less communication cables and plugs needed per Megawatt – saving on installation
- No external fan – saving on maintenance



Packaging Concept

- Pallet integrated transport box
- Package dimensions including pallet (W x L x H): 966 x 806 x 529 mm
- Inside package dimensions (W x L x H): 940 x 760 x 400 mm
- Package weight: 20,5 kg
- up to 5 inverters stackable
- Single shipping possible
- Materials: 6 mm plywood (Sperrholz), corrugated cardboard (Wellpappe)
- Suitable for international shipping (IPPC) 
- RoHS conform

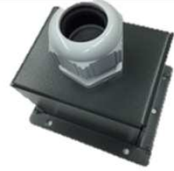


Recycling: if customers asks, we need to collect the boxes from the site












Product Article Numbers

Article No.	Name	AC Power
840R040.000	AE 3TL 8-IEC	40 kW
840R010.000	AE 3TL 10-IEC	46 kW
934R210.1850	ConnectionBox Small Sunclix	

Accessories 3TL 40, 46

AEI Power GmbH		Picture
Part No.	Type	
0035053	Beilagensatz 3TL 40, 46 (AC Connector, 2 Hooks)	
934R210.1850	ConnectionBox Small Sunclix	
0034920	Wandhalterung REFUsol 840 MZ 00	
0034643	DEHN DG MOD PV SCI 500 952 051 (2x needed)	
0034644	DEHN DG MOD PV SCI 500 952 041 (1x needed)	

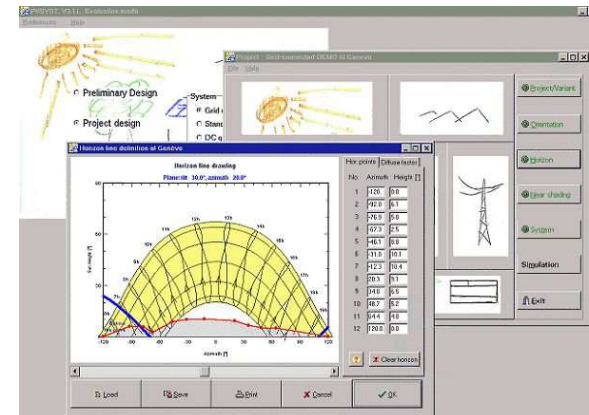
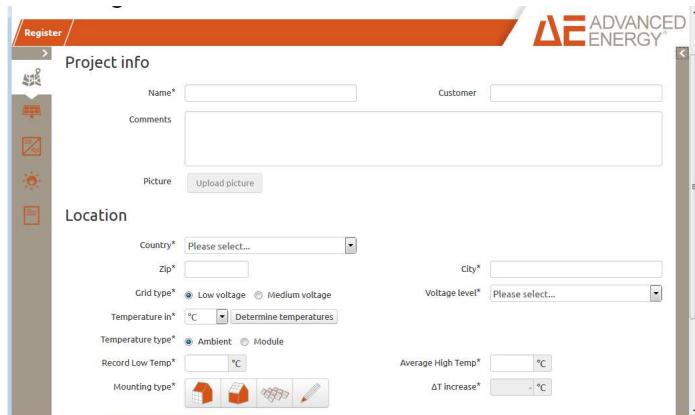
Cable and Plugs Accessories 3TL 40, 46

Ethernet Plug	1656990	Phoenix VS-08-RJ45-5-Q/IP67	0028943	Ethernet Stecker RJ45VS-08-RJ45-5-Q/IP67		15.00€
Ethernet Cap	1652606	Phoenix Schutzdeckel - VS-08-SD-F	0028465	Schutzdeckel IP67 VS-08-SD-F		1.80€
Sensor Plug	1512555	Phoenix SACC-M12MS-5SC SH	0030616	Sensor/Aktor Stecker 5p SACC-M12MS-5SC SH		12.00€
RS485 Plug	1513253	Phoenix SACC-M12MS-4SC SH	0033270	Set of 2 Sensor/Aktor-Stecker RS485		23.00€
RS485 / Sensor Cap	1695744	Phoenix Verschlusschraube - PROT-	0028467	Verschlusskappe IP67 PROT-M12		0.50€
Sunclix Plug Set *)			0035314	SUNCLIX Stecker 2.5-6 (20 Plus+20 Minus)		76.00€
Sunclix Cap Set *)			0034844	SUNCLIX Schutzkappe (20 Stück)		30.00€
Y Cable -/++ *)	1787726	Phoenix PV-YC 6/ 1-0,12-SO3 (-/++),	0035216	SUNCLIX-Y-Verteiler PV 1xStift,2xBuchse,		
Y Cable +/- *)	1787739	Phoenix PV-YC 6/ 1-0,12-SO3 (+/--)	0035217	SUNCLIX-Y-Verteiler PV 2xStift,1xBuchse		
Adaptor Cable MC4-Sunclix	1704982	Phoenix PV-AS-MC4/6-150-MN-SET	0035043	SUNCLIX Adapterkabel MC4 – Set/Pair		16.00€

*) in preparation. Will be added to price list

Tools

- Available in [AE SiteLink](#).
- Available in [AE Design Tool](#). Take care of weather station bug!
- Integrated into [PVsyst 6.31](#) (available from today?)
 - „OND file“ not necessary after update!
- [PVsol](#) to be confirmed



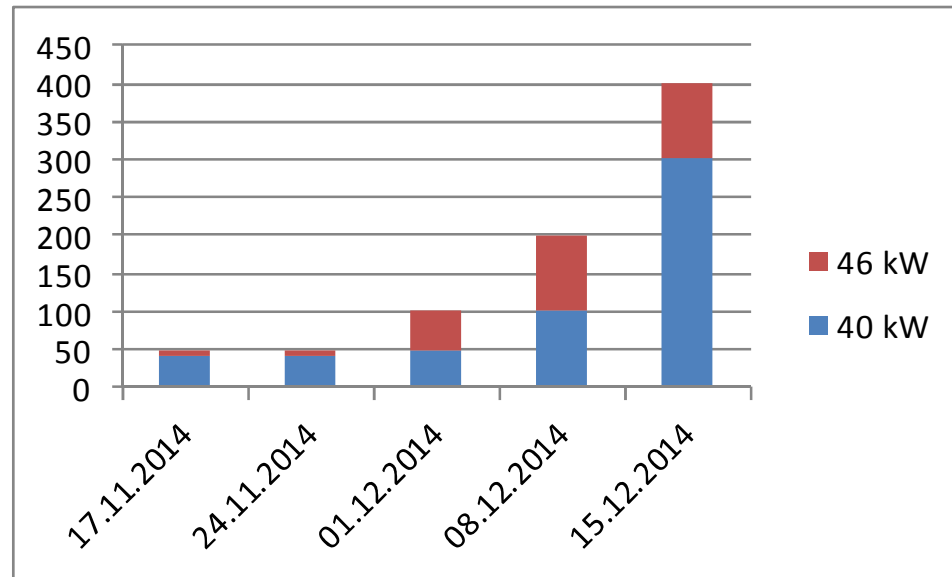
Internal Launch Time Schedule

Production

- Ramping up of production in progress from today
- General Availability: Mid. November
- Availability for shipping

17th Nov.	24th Nov.	1st Dec.	Until end of 2014
+50	+50	+100	+200 ... 800 (depending on orders)

Date	Weekly Availability	
	40 kW	46 kW
17.11.2014	40	10
24.11.2014	40	10
01.12.2014	50	50
08.12.2014	100	100
15.12.2014	300	100



Internal Launch Time Schedule

Sales

- General Info to Sales: **today**
- Quotes with 40 kW and 46 kW: **now**
- Order confirmations with 40 kW and 46 kW: **now**
- AE insight Newsletter will feature 40 / 46 kW inverter

Any more information, please ask!



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