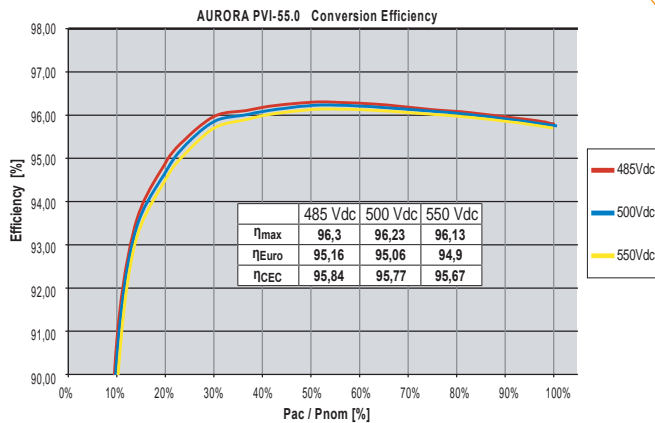


## General Specification Centralized Model PVI-55.0

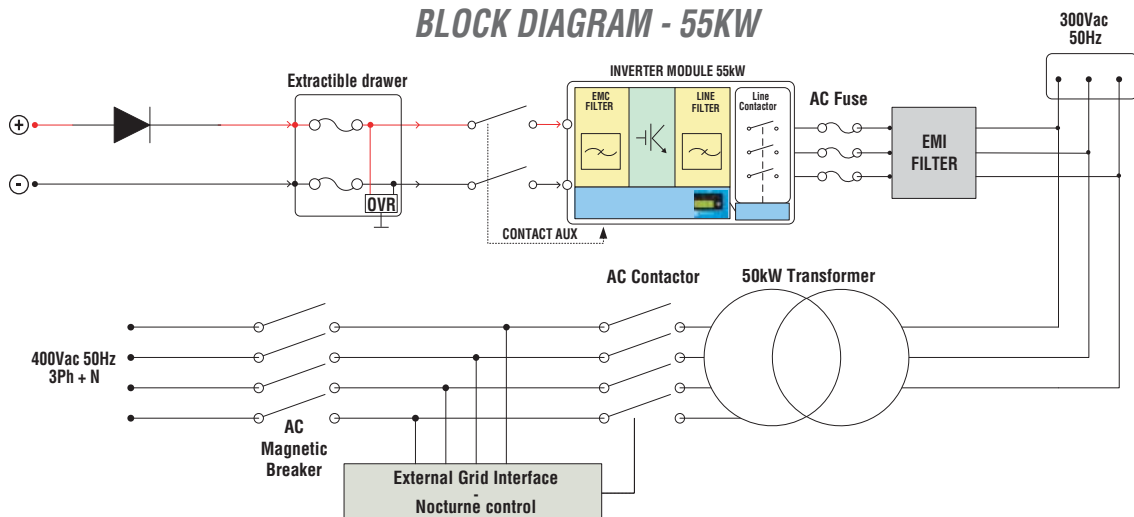
### AURORA BENEFITS

- New "Electrolyte-free" power converter to further increase the life expectancy and long term reliability
- Reduced susceptibility to a single fault. In case of a component failure, a maximum of 55kW will be lost
- Increased energy harvesting, Euro and peak efficiency +0,5% compared to previous generation ( $\eta_{pk}$  PVI-55.0=96,30%)
- Reduced acoustic noise due to the high switching frequency (18kHz).
- Maximum input voltage up to 1000Vdc, improved design flexibility and reduced DC distribution losses for large scale PV plants
- Integrated DC and AC distribution and protection. Fully equipped for connection, additional accessories not required
- Simplified wiring, fully front-accessible DC and AC terminations
- Easy installation and maintenance procedure. Front extractible DC distribution and auxiliary supply drawers, together with the modular DC/AC converters ensure full accessibility to all critical parts during installation, inspection and maintenance (incl. air filter holders)
- Smart grid management functions for large "utility grade" PV plants. Static grid support through reactive power compensation, frequency-dependent control of active power, utility-controlled active and reactive power set-points, dynamic grid support with LVRT capability (Low Voltage Ride Through). All optional functions available in accordance to the BDEW medium-voltage directive



### AURORA PVI-55.0 EFFICIENCY

### BLOCK DIAGRAM - 55KW



CHARACTERISTICS	PVI-55.0
<b>INPUT PARAMETERS</b>	
Nominal PV power [kWp]	56.4
Maximum recommended PV power [kWp]	
Total (master/slave mode)	59
Per channel (multi-master mode)	
Absolute maximum input voltage [Vdc]	1000
MPPT input voltage range <sup>(1)</sup> [Vdc]	485 - 850
<b>Number of independent MPPT</b>	
Multi-master configuration	1
Multi-master/slave configuration	na
Master/slave	na
Total Maximum input current [Adc]	123
Multi-master mode (each module)	123
Input Reflected Ripple voltage	<3%
Number of DC inputs	1
Max. DC input wire section (each polarity) <sup>(2)</sup>	1x185mmq (M10)
<b>STANDARD EQUIPMENT - INPUT</b>	
Insulation Control	Yes, with alarm
Integrated DC protection	
Reverse polarity and backfeed current protection (each input)	YES, with series diode
Input fuse overcurrent protection <sup>(3)</sup> (each input/both polarities)	125A/1000V
Load-breaking DC switch <sup>(4)</sup> (each input, monitored)	200A/1000V
Input overvoltage protection <sup>(5)</sup> (monitored)	Yes
<b>OUTPUT PARAMETERS</b>	
Nominal AC Output Power, PACnom (up to 50°C, kW)	55
Nominal AC Output Current [Arms]	81
AC Output Voltage range [Vrms]	3 x 400 +/-15%
Nominal AC Frequency [Hz]	50 / 60
Nominal Power Factor / adjustment range (cos φ)	1 / -0.95...+0.95 (@ Pac nominal)
AC Current Harmonics [THD%] <sup>(6)</sup>	< 3% (@ Pac nominal)
Inverter Switching Frequency [kHz]	18
Max AC output wire section (each phase)	1x95mmq ( M8 )
<b>STANDARD EQUIPMENT - OUTPUT</b>	
AC Contactor (night time disconnect)	Yes
AC Output Circuit Breaker (Magnetothermic switch) / Breaking capacity [kA] (*) 300Vac side of the transformer	Yes / 50kA
AC side overvoltage protection (power and aux input)	Yes
<b>CONVERSION EFFICIENCY<sup>(7)</sup></b>	
Peak Efficiency %	96.30%
Euro Efficiency %	95.10%
CEC Efficiency %	95.80%
<b>ENVIRONMENTAL PARAMETERS</b>	
Environmental Protection Degree (acc to EN 60529)	IP20
Operating Temperature Range	-10°C...+50°C
Required ambient air cooling flow	1500m3/h
Relative Humidity (non-condensing)	< 95%
Maximum altitude above sea level without derating [mt] <sup>(8)</sup>	1000
Audible Noise [dBA @ 1mt]	<62
<b>AUXILIARY SUPPLY</b>	
External Auxiliary Supply Voltage	3x400Vac + N, 50/60Hz
Maximum consumption in operation	<0.36% PACnom
Maximum consumption in operation (ac-box fan off)	<0.25% PACnom
Night time losses [W]	<17W
<b>COMMUNICATION/USER INTERFACE</b>	
Communication Port (PC / Datalogger)	1 x RS485 (RS485_USR)
Communication - String Combiner boxes (PVI-STRINGCOMB)	1 x RS485 (RS485_2)
Remote Communication (optional)	WEBLOGGER, PVI-EAC-EVO (Ethernet, GPRS)
User Interface	2-lines Display (on each inverter module)
<b>MECHANICAL CHARACTERISTICS</b>	
Dimensions (WxHxD) [mm]	1250 x 1607(*) x 893.5
(*) Output Air conduit not included	
Overall Weight [kg]	800
50kW module Weight [kg]	60
<b>APPROVALS</b>	
EMC	EN 61000-6-2, EN 61000-6-4, EN 61000-3-11; EN 61000-3-12
CE Compliance	Yes
Grid connection	Connection guide to the Enel grid Ed 1.1/09, BDEW, RD1663/2000

**NOTES:**

(1)  $V_{mp\_min} = 485V @ Vac \leq 320Vrms$  and  $\cos \phi = 1$

(2) Cable crimped with reduced size terminal ring.  
For cable up to 185mmq: use terminal ring for M10 screw and max width 30mm  
For cable up to 300mmq: use terminal ring for M10 screw and max width 40mm

(3) Only Master/Slave and Multi-Master/Slave

(4) For M/S configuration above 110Kw a load breaking disconnect is required at the DC input of the inverter

(5) Multi-Master = 1 for each input; Master/Slave and Multi-Master/Slave = 1 for each mppt

(6) AC voltage distortion <2%

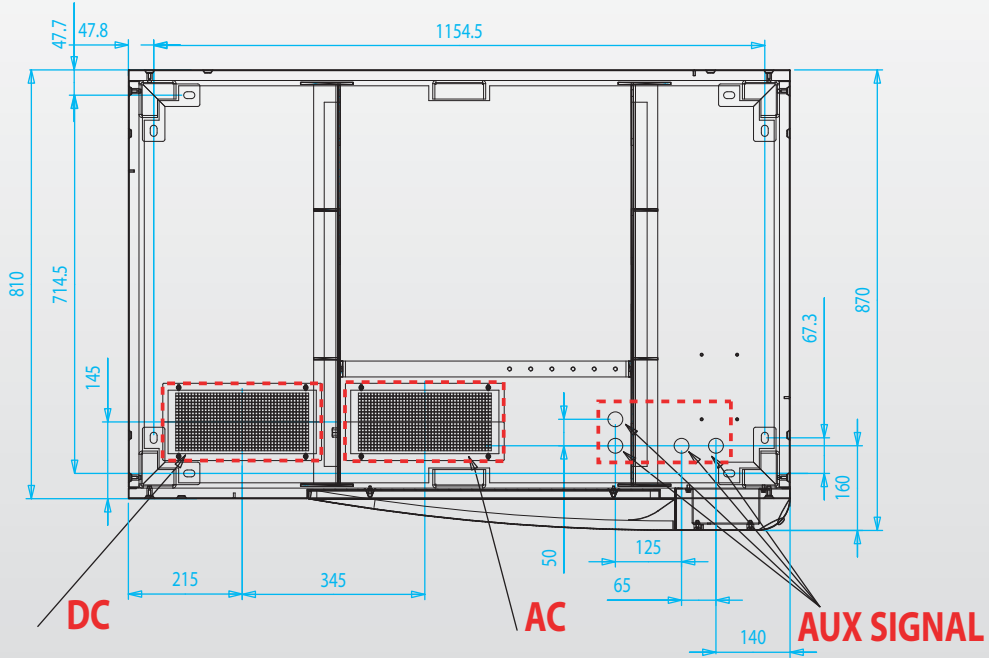
(7) Conversion efficiency, not including auxiliary supply consumption, measured @ Vdc=485V and Vac=320Vrms

(8) Contact Power-One for application at higher altitudes

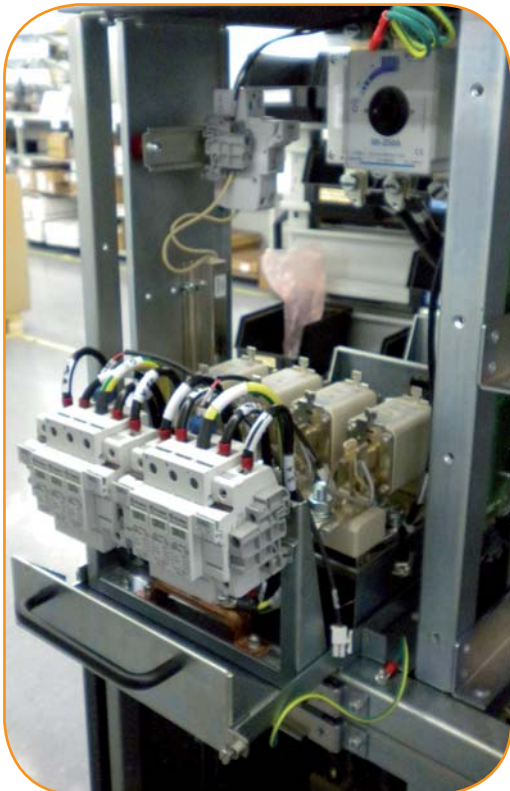
## MODEL SUMMARY

MODEL NUMBER	CONFIGURATION
PVI-55.0	with transformer

## FOOTPRINT HOLES FOR DC, AC AND AUX CABLE INPUT



FRONT EXTRACTIBLE DRAWER, DC FUSE AND SPD



FRONT EXTRACTIBLE DRAWER, AUX SUPPLY AND COMMUNICATION

