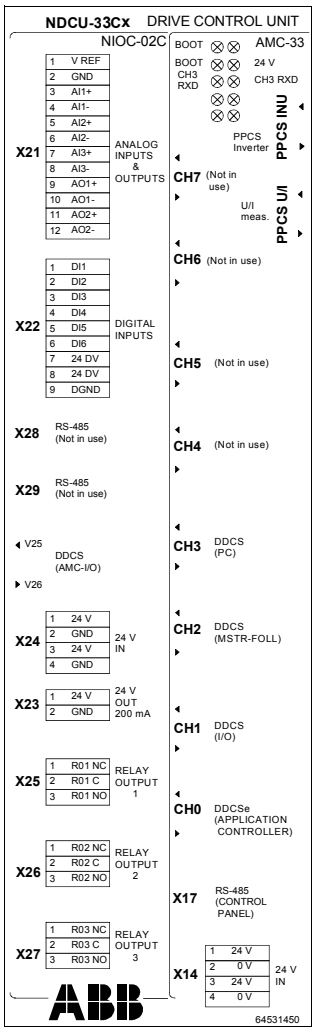
Control unit of the rotor-side converter

The rotor-side converter is controlled by its own NDCU control unit. The NDCU is connected to the rotor-side converter power modules by a fiber optic link, distributed through APBU optical branching unit. In the rotor-side converter modules the fiber optic link is connected to the AINT board.

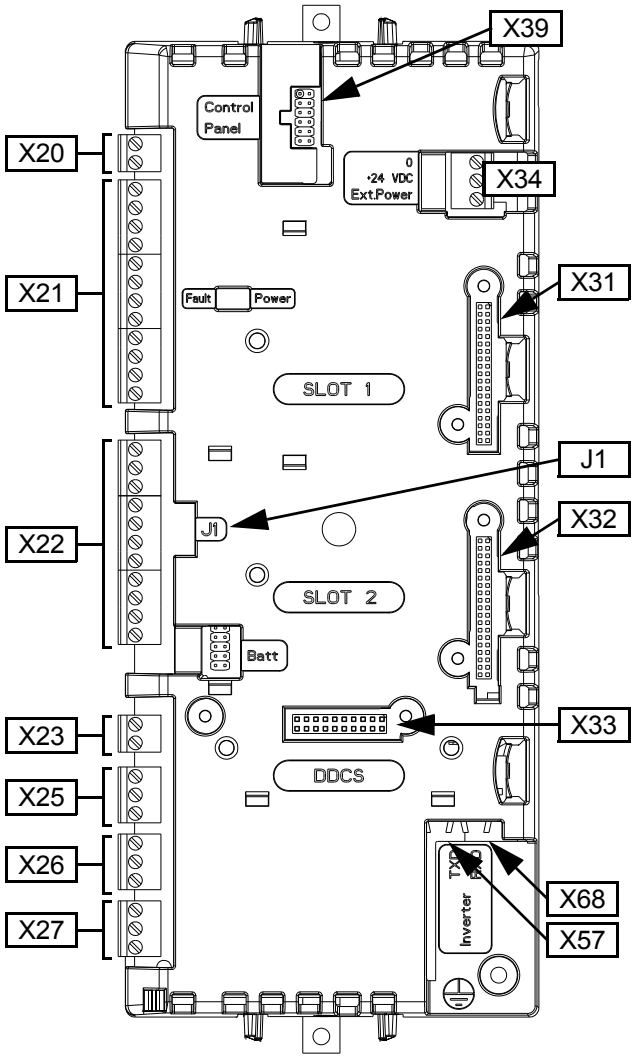
Control unit NDCU-33Cx/RDCU-12C

The connectors of the rotor-side converter control unit NDCU-33Cx (consisting of the NIOC-02C and AM33C boards) and the grid-side converter control unit RDCU-12C (containing the RMIO-12C board) are shown below. For further information on the RDCU control unit, see *RDCU drive control units hardware manual* [3AFE64636324 (English)].

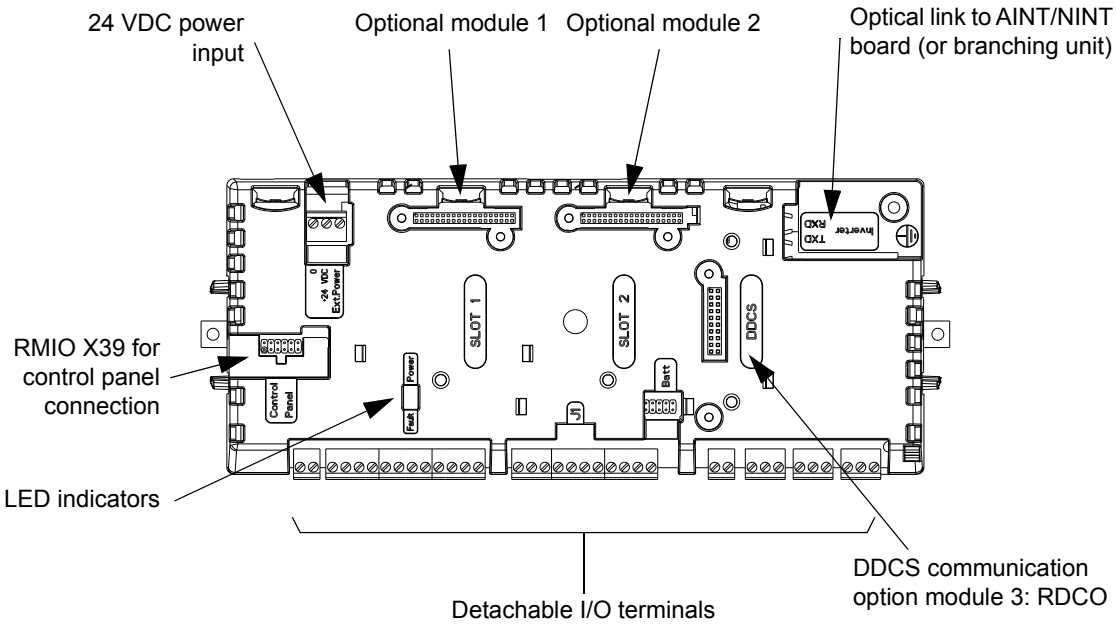
NDCU-33Cx *RDCU-12C*



X20	1	VREF
	2	GND
X21	1	VREF
	2	GND
	3	AI1+
	4	AI1-
	5	AI2+
	6	AI2-
	7	AI3+
	8	AI3-
	9	AO1+
	10	AO1-
	11	AO2+
	12	AO2-
X22	1	DI1
	2	DI2
	3	DI3
	4	DI4
	5	DI5
	6	DI6
	7	+24V
	8	+24V
	9	DGND
	10	DGND
	11	DIIL
X23	1	+24 V
	2	GND
X25	1	RO1
	2	RO1
	3	RO1
X26	1	RO2
	2	RO2
	3	RO2
X27	1	RO3
	2	RO3
	3	RO3

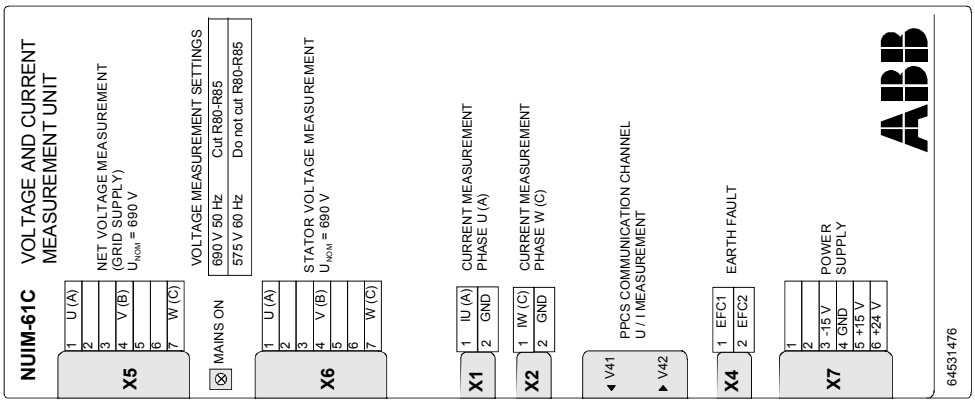


RDCU-12C



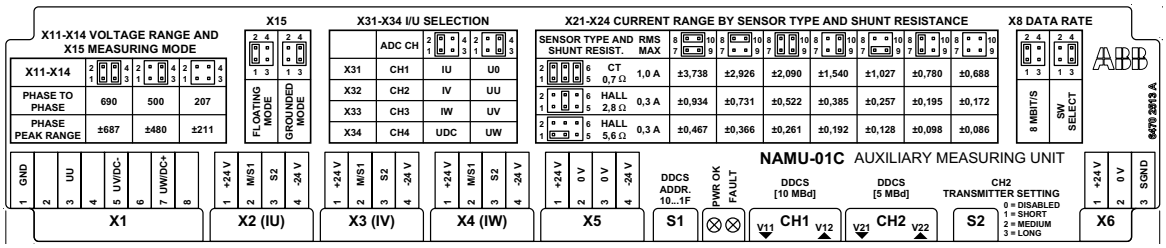
Voltage and Current Measurement Unit NUIM-61C/NUIM-10C

The connectors of the Voltage and Current Measurement Unit NUIM-61C are shown below.



Auxiliary Measuring Unit NAMU-01C

Auxiliary Measuring Unit NAMU-01C is connected to CH2 of the RDCO module. Connectors of the unit are shown below.



Fiber optic links

Grid-side converter: DDCS fiber optic links are provided by RDCO modules (installed on the RDCU control units) for PC tools, master/follower link, NDIO, NTAC, NAIO, AIMA I/O module adapter and fieldbus adapter modules of type Nxxx. For the connections, see *RDCO user's manual* [3AFE64492209 (English)].

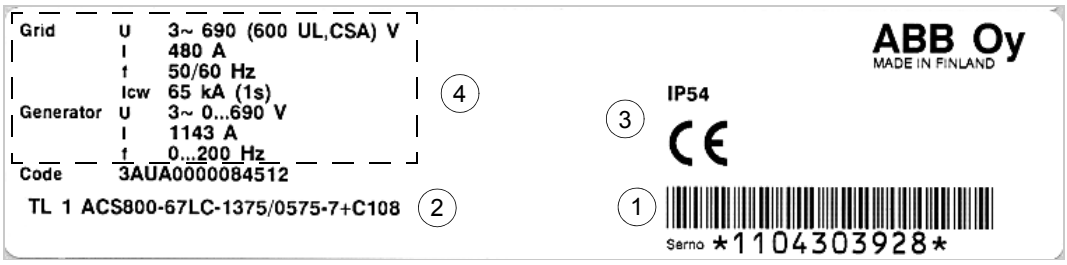
Rotor-side converter: DDCS fiber optic links are provided by NDCU control unit for PC tools, master/follower link, NDIO, NTAC, NAIO, AIMA I/O module adapter and fieldbus adapter modules of type Nxxx.

Type designation labels

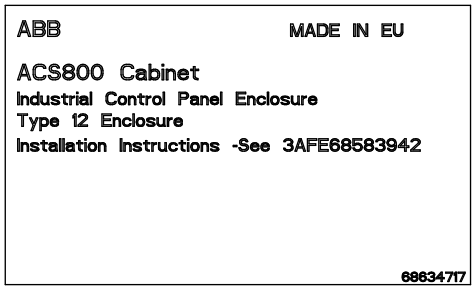
Type designation label is attached to the door of the ACU cubicle (inside and outside of the door). The type designation label includes ratings, valid markings, type code and serial number of the unit. Each power module is also individually labeled.

Example label is shown below.

No.	Description
1	Serial number. The first digit of the serial number refers to the manufacturing plant. The next four digits refer to the unit's manufacturing year and week, respectively. The remaining digits complete the serial number so that there are no two units with the same number.
2	Type code. See section *Type designation key*.
3	Valid markings
4	Ratings of the unit



UL Type 12 label (USA and Canada only)



UL508A label

Type designation key

The type code contains information on the specifications and configuration of the unit.

- The first 23 digits form the basic code. It describes the basic construction of the unit. The fields in the basic code are separated with hyphens.
- The option codes follow the basic code. Each option code starts with an identifying letter (common for the whole product series), followed by descriptive digits. The option codes are separated by plus signs.

The selections are listed below. For more information, contact your local ABB representative.

Basic code

Digit no.	Name/Description	Alternatives	Description
1…6	Product series	ACS800	
8…11	Construction	67LC	Cabinet mounted liquid-cooled wind turbine converter for the control of an induction generator
13…21	Size	1075/0575 1375/0575 1375/1125 1595/0865 2035/1125	Rotor-side converter kVA rating / Grid -side converter kVA rating
23	Voltage rating	7	7 – Voltage range 525…690 V

When no options are selected, the following features are included as standard: 1-phase 230 V connection for control electronics to be supplied by online UPS, auxiliary power connection 1-phase, 50/60 Hz supply 230 VAC control voltage, NTAC-02, NAMU-6x, doubly-fed induction generator control program. Control logic for cabinet liquid circuit heater, cooling connection with G2” thread, cooling connection on the right-hand side of the cabinet, EMC 2nd Environment filter, du/dt limitation by choke, common mode filter, Emergency stop cat. 0, ICU 200 mm with bottom entry cables, bottom exit of cables, cable entry plates (blank plates), coated boards, one set of default language documents.

Option codes (+ codes)

Code	Description
Construction	
C129	UL508A design. UL508A approved up to 600 V AC.
C144	Cooling connectors on the left-hand side when viewed from front
C171	Flange for cooling liquid connections of size DN64 with flange clamp, ISO 6162-1:2002
C111	400 mm wide incoming cubicle instead of standard 200 mm with AC fuses and load switch disconnector for grid-side converter
C161	Removable cabinet doors for 400 mm and wider cubicles
nH370	IEC: Converter supply cable: sealing module entry for 9.5…32.5 mm diameter single phase cables
1H370	12 cables
2H370	24 cables (not available for 200 mm wide incoming cubicle)
nH371	IEC: Converter supply cable: sealing module entry for 48…71 mm diameter three phase cables
1H371	3 cables
2H371	6 cables (not available for 200 mm wide incoming cubicle)
nH372	IEC: Rotor cable: sealing module entry for 9.5…32.5 mm diameter single phase cables
1H372	12 cables
2H372	24 cables
3H372	36 cables
nH373	IEC: Rotor cable: sealing module entry for 48…71 mm diameter three phase cables
1H373	3 cables
2H373	6 cables
3H373	9 cables
H375	IEC: Rotor cable: sealing module entry for 28…54 mm diameter single phase cables
H378	IEC: Converter supply cable: sealing module entry for 28…54 mm diameter single phase cables
Power Cabinet	
As standard, the power cabinet includes stator circuit-breaker, stator contactor(s), stator current measurement (L1 and L3), bottom entry and exit of cables, blank cable entry plate and AC fuses for grid-side converter. IP54 degree of protection. For detailed description of power cabinet options, see *ICU800-67LC incoming units (+C108/+C109) hardware manual* [3AUA0000071553 (English)].	
C108	Power cabinet attached to the converter cabinet (single delivery length)
C109	Power cabinet as a stand-alone cabinet. **Note:** Cooling connectors (G2” thread) are always on the right side of the cabinet.
G409	Auxiliary voltage supply 690 V IEC 160 A
G396	Auxiliary voltage supply 690 V IEC 125 A
G397	Auxiliary voltage supply 690 V IEC/UL 100 A
G398	Auxiliary voltage supply 690 V IEC/UL 80 A
G399	Auxiliary voltage supply 690 V IEC/UL 63 A
F280	Overvoltage protection for the grid supply (Class I SPD products, according to IEC 61643-1:2005)
G335	Grid power measurement (3 pcs class 0.5 current transformers with 1 A rated secondary current and voltage measurement terminals)
nH374	IEC: Cabling: sealing module entry for 9.5…32.5 mm diameter single phase cables
1H374	64 cables
2H374	80 cables
3H374	112 cables
H379	IEC: Cabling: sealing module entry for 28…54 mm diameter single phase cables
nH380	IEC: Cabling: sealing module entry for 48…71 mm diameter three phase cables
1H380	16 cables

Code	Description
2H380	20 cables
3H380	28 cables
Ride through options	
D150+D151	Zero voltage ride through option 1 (DC chopper + DC resistor 1500kJ / INU module)
D150	Zero voltage ride through option 2 (DC chopper)
Measurement for stator voltage	
G394	Standard NUIM replaced by NUIM-10 for MV measurement (stator voltage > 1kV)
Fieldbus options	
K451	DeviceNet adapter (NDNA-02)
K453	Interbus-S adapter (NIBA-01)
K454	PROFIBUS DP adapter (NPBA-12)
K457	CANopen adapter (NCAN-02)
Ethernet	
K464	Ethernet adapter EIP, MB/TCP (NETA)
Specialities	
P902	Customized according to Technical Appendix
P904	Extended warranty 24/30
P909	Extended warranty 36/42
P910	Service plan 48/54
P911	Service plan 60/66
P913	Special color according to Technical Appendix

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