Power: 8/8 Position Circuit Breaker Panel

The Amphenol 300CB08/nrg300CB08 circuit breaker panels are 325A dual-feed and provide 8/8 breaker positions. Our 300CB08/nrg300CB08 panels feature ±12/±24/±48V operating voltages to serve both legacy and "next-gen" network applications. Engineered into a standard 1RU footprint, each circuit supports up to 60A breakers in each position, providing ample capacity for distribution

Fig. 1: nrg300CB08-SENS Front View

to a broad range of components. Advanced circuit level monitoring features are available as an option. The panel is available in standard terminal block outputs or connectorized outputs.

This platform provides front access to alarm enable/disable switch configuration for uninstalled breaker locations. Also featured are front LED indicators for power/breaker alarms, monitoring status, rear connections for form C relay alarms, and optional nrgSMART connections.

Fig. 2: 300CB08 Rear View

Each of the 325A feeds provide power for up to eight output positions. Field replaceable circuit breakers are available from 5A to 60A per position. TPA fuses are available from 5A to 50A per position. The front of the panel features a face plate designed to protect against unintended breaker on or off switching. The panel supports universal voltages (±12VDC to ±48VDC).

Primary Benefits

- Universal voltage (±12VDC, ±24VDC and ±48VDC) enables standardization on a single part number for multiple voltages
- Up to 60A breakers for distribution to a variety of network elements
- UL and NEBS compliant to ensure industry-standard safety and functional requirements
- Form C relay contacts provide reliable alarm connections
- Integrated designation card holder for simple circuit identification
- Fail alarm LEDs indicate breaker and power failures
- Clear, flame-retardant polycarbonate cover (94V-0) protects input and output power connections and wiring from damage

- Either vertical feed inputs and staggered output terminal blocks to facilitate waterfall cable management, horizontal feed inputs and output connectors that speed-up installation and allow cables to exit straight back from the panel, or vertical feed inputs and output connectors that allow input cables to be routed directly from above and speed up installation of outputs
- Optional Individual Circuit Monitoring provides high accuracy, 100% passive monitoring
- Collect voltage and current for both feed and output circuit
- Collect temperature using optional nrgTEMP probes

Applications

- Wireless
- Central office
- Co-location
- Remote sites
- Secondary distribution

Fig. 3: nrg300CB08-C Rear View

Ordering Information

Circuit Breaker Panel	Part Number:
325A Dual-Feed, 8/8 Panel, Vertical Inputs, Output Terminal Blocks	300CB08
325A Dual-Feed, 8/8 Panel, Horizontal Inputs, Connectorized Outputs, Standard Tie Bar (Connectors purchased separately)	300CB08-C
325A Dual-Feed, 8/8 Panel, Vertical Inputs, Connectorized Outputs (Tie Bar and Connectors purchased separately)	300CB08-SC
nrgSMART Circuit Monitoring, Controller, 325A Dual-Feed, 8/8 Panel, Vertical Inputs, Output Terminal Blocks	nrg300CB08-CTRL
nrgSMART Circuit Monitoring, Sensor, 325A Dual-Feed, 8/8 Panel, Vertical Inputs, Output Terminal Blocks	nrg300CB08-SENS
nrgSMART Circuit Monitoring, Controller, 325A Dual-Feed, 8/8 Panel, Horizontal Inputs, Connectorized Outputs, Standard Tie Bar (Connectors purchased separately)	nrg300CB08-CTRL-C
nrgSMART Circuit Monitoring, Sensor, 325A Dual-Feed, 8/8 Panel, Horizontal Inputs, Connectorized Outputs, Standard Tie Bar (Connectors purchased separately)	nrg300CB08-SENS-C
nrgSMART Circuit Monitoring, Controller, 325A Dual-Feed, 8/8 Panel, Vertical Inputs, Connectorized Outputs (Tie Bar and Connectors purchased separately)	nrg300CB08-CTRL-SC
nrgSMART Circuit Monitoring, Sensor, 325A Dual-Feed, 8/8 Panel, Vertical Inputs, Connectorized Outputs (Tie Bar and Connectors purchased separately)	nrg300CB08-SENS-SC

Stud Input/Lug Output

Connectorized/Horizontal Input "-C"

Connectorized/Stud Input "-SC"

Accessories (Purchased Separately):	Part Number:
1RU Circuit Breaker Puller	307491
Extra Blanking Covers (sheet of 16): to cover unused breaker positions (sheet of 16 included with panel)	149568
4 Post Mounting Bracket Kit: 22"-36" Brackets, Mounting Hardware (requires Tie Bar, -C Versions only)	307622
Tie Bar Kit: Connectorized, Rear Mount Tie Bar, Mounting Hardware (-SC Versions only)	307661
nrgSMART Temperature Sensor, ACC, 6ft	nrgTemp
Replacement Components:	**Part Number:**
Replaceable Alarm Card	307608
Replaceable Alarm Card, nrgSMART	307710
Replaceable Controller Board, nrgSMART	400822
Replaceable Sensor Board, nrgSMART	307607
19" Mounting Bracket Kit: 2x 19" Brackets, Mounting Hardware	PMTG19
23" Mounting Bracket Kit: 2x 23" Brackets, Mounting Hardware	PMTG23
Connectors (Purchased Separately):	**Part Number:**
P40 Connector Kit: TPA, 8-6 AWG, Plug, Retainer, 2x Contacts	150326
P40 Connector Kit: TPA, 12-10 AWG, Plug, Retainer, 2x Contacts	150325
P40 Replaceable Contact: TPA, 8-6 AWG, Single Contact	150333
P40 Replaceable Contact: TPA, 12-10 AWG, Single Contact	150334
Crimp Tool: 14-6 AWG, Daniels, M300BT	150793
Crimp Tool Locator: Universal, Daniels, UH2-5	150794
Contact Removal Tool: P40 Connector	150797
Single-pole Breakers:	**Part Number:**
5A, standard delay, UL489	149710
10A, standard delay, UL489	149711
15A, standard delay, UL489	149712
20A, standard delay, UL489	149713
25A, standard delay, UL489	149714
30A, standard delay, UL489	149715
40A, standard delay, UL489	149716
50A, standard delay, UL489	149718
60A, standard delay, UL489	149719
TPA Fuses:	**Part Number:**
5A, 170VDC	124818
10A, 170VDC	124819
15A, 170VDC	124820
20A, 170VDC	124821
25A, 170VDC	125244
30A, 170VDC	122734
40A, 170VDC	122738
50A, 170VDC	122739

Fig. 4: nrg300CB08-CTRL

Specifications

Inputs:	Specifications:
Voltage range (nominal voltage)	±12VDC, ±24VDC and ±48VDC
Max. input load rating	325A @ 45°C per panel (De-rated to 200A @ 70°C)
Short circuit withstand rating	5000A
Nominal power loss at full load	Less than 45W per side @15,600W full load per side (325A x 48V); 325A @ 45°C per panel (De-rated to 200A @ 70°C)
Percentage of full power dissipation at nominal voltage	Less than 0.5%
Max. input interrupt device	125% of panel rating (for 325A rated feeds)
Optional (Standard and -SC versions): Vertical input terminal studs (with Keps nuts and flat washers) for dual-hole compression lugs	Two pairs of $3/8$-16 studs on 1" centers per terminal [max. lug width of 1.15" (29.2 mm)]. Torque nut (using $9/16$" or 15 mm socket) to 150 in/lb. (~17 N•m), max.
Optional (-C Versions): Horizontal input terminal landings (with Keps nuts, flat washers, and bolts) for dual-hole compression lugs	Two pairs of $3/8$" holes on $5/8$"-1" centers per terminal [max. lug width of 1.5" (38.1 mm)]. Torque bolt and nut (using $9/16$" or 15 mm sockets) to 150 in/lb. (~17 N•m), max.
Input wire size	2/0 AWG to 350 MCM
Grounding:	Specifications:
Earth GND terminal bolts (with spring washers and flat washers) for dual-hole compression lug	Three sets of $1/4$-20 threaded holes on $5/8$" centers. [max. lug width of .50" (12.7 mm)]. Torque bolts (using $7/16$" or 12 mm socket) to 50 in/lb. (5.5 N•m), max.
Ground wire size	#14 AWG to #4 AWG
Outputs:	Specifications:
Output circuit breaker	Single-pole: 60A
Output load	Single-pole: 48A continuous
Minimum short circuit interrupt rating	5000A
Optional (Standard Versions): Terminal blocks, single-hole compression lugs	16, #10-32 screws [max. lug width of .50" (12.7)]. Torque screw to 20 in/lb. (2.3 N•m), max.
Optional (Standard Versions): Output wire size, single-hole compression lug	#14 AWG to #4 AWG
Optional (-C and -SC Versions): Connectors (purchased separately)	16, P40 connector plugs, latching, safe touch
Optional (-C and -SC Versions): Output wire size, connectors	#12 AWG to #6 AWG
Circuit breakers	AIRPAX 1U Series
Alarms:	Specifications:
Alarm relay contacts	2A @ 30 VDC; 0.6A @ 60 VDC
Max. alarm card power rating	@12V: 18mA (0.22W) @24V: 20mA (0.48W); @48V: 30mA (1.44W)
Alarm wire size	#24 AWG, typical (#26 to #20 AWG)
Terminals	Wire wrap or mates with TE Connectivity 3-640428-3
Dimensions:	Specifications:
300CB08/nrg300CB08 Height: Depth: Width:	1.75" (44 mm) / 13.0" (331 mm) / 17" (432 mm) without brackets / 19" and 23" brackets included with panel
300CB08-C/nrg300CB08-C Height: Depth: Width:	1.75" (44 mm) / 18.8" (478 mm) without tie bar / 22.0" (559 mm) with tie bar / 17" (432 mm) without brackets / 19" and 23" brackets included with panel

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300CB08-SC/nrg300CB08-SC		Tie bar included with panel
		Cable-end connectors not included with panel
	Height:	1.75" (44 mm)
	Depth:	13.0" (331 mm) without tie bar
		16.5" (420 mm) with tie bar
	Width:	17" (432 mm) without brackets
		19" and 23" brackets included with panel
		Tie bar and cable-end connectors not included with panel

Weights:	Specifications:
300CB08/nrg300CB08	12.0 lb. Unpopulated / 17.0 lb. Populated
300CB08-C/nrg300CB08-C	14.6 lb. Unpopulated / 19.6 lb. Populated
300CB08-SC/nrg300CB08-SC	12.0 lb. Unpopulated / 17.0 lb. Populated

Compliance:	Specifications:
UL	Listed
NEBS	Level 3

Voltage Sensor (nrgSMART model only):	Specifications:
Sensor accuracy	-19.99 to +19.99V: ± 0.3V
	-20V to -60V: ± 0.1V
	+20V to +60V: ± 0.1V
Voltage measurement range	-60 to +60 VDC

NOTE:

• Voltage measurement may be slightly different than at input terminal blocks due to the voltage drop within the panel.

• Sensors are factory calibrated and do not require user adjustment.

Current Sensor (nrgSMART model only):	Specifications:
Precision / accuracy	±5% precision, ±0.25A accuracy
	Example: 40A current, will measure 40A ± (40A*5%) ± 0.25A
	= 40A ± 2.0A ± 0.25A
	= 37.75A to 42.25A

Communication (nrgSMART model only):	Specifications:
nrgOS minimum required version	nrgOS 4.1.0
nrgNET communication protocol	Proprietary serial protocol used to communicate between panels and controller
nrgNET connector	Removable 5-pin connector with screw down terminals
nrgNET connector functions	nrgNET IN from the Controller or upstream nrgSMART panel
	nrgNET OUT to downstream nrgSMART panel