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 PRODUCT-DETAILS

## ACH580-31-169A-4

LV AC ultra-low harmonic wall-mounted drive for HVAC, IEC: Pn 90 kW, 169 A, 400 V, UL: Pld 125 Hp, 156 A, 480 V (ACH580-31-169A-4)




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**General Information**

Global Commercial Alias	ACH580-31-169A-4
Product ID	3AXD50000429073
ABB Type Designation	ACH580-31-169A-4
EAN	6438177594505

Catalog Description	LV AC ultra-low harmonic wall-mounted drive for HVAC, IEC: Pn 90 kW, 169 A, 400 V, UL: Pld 125 Hp, 156 A, 480 V (ACH580-31-169A-4)
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ACH580 HVAC drive offering has all key features built-in to control fans, pumps and compressors, and more complex equipment like air-handling units and chillers, ensuring smooth, energy-efficient operation of your HVAC systems in normal and mission-critical situations. This ultra-low variant provides ultimate harmonic performance, reaching even less than 3 % THDi, and exceeding the requirements set by low harmonic recommendations.

**Long Description**

The drive includes an active supply unit and integrated low harmonic line filter, meaning there is no need for external filters, multi-pulse arrangements or special transformers. Other features include output voltage boost and power factor correction. The built-in features significantly reduce installation time, and the intuitive HVAC specific control panel and help assistants make operation easy. The optional Bluetooth® capability enables the commissioning and monitoring of the drive from a distance. The variant comes in IP21 enclosure as standard and can be installed on the wall. Also, IP55 and flange mounting units are available.

## Ordering

Customs Tariff Number	85044086
HS Code	850440 -- ELECTRICAL MACHINERY AND EQUIPMENT AND PARTS THEREOF; SOUND RECORDERS AND REPRODUCERS, TELEVISION IMAGE AND SOUND RECORDERS AND REPRODUCERS, AND PARTS AND ACCESSORIES OF SUCH ARTICLES; Electrical transformers, static converters (for example, rectifiers) and inductors; Static converters
Invoice Description	ACH580-31-169A-4 PN: 90 kW, IN: 169 A
Made To Order	Yes
Minimum Order Quantity	1 piece
Order Multiple	1 piece
Quote Only	No
Selling Unit of Measure	piece

## Dimensions

Product Net Weight	118 kg 260.146 lb
Product Net Depth / Length	438 mm 17.244 in
Product Net Height	965 mm 37.992 in
Product Net Width	300 mm 11.811 in
Package Level 1 Depth / Length	1164 mm 45.827 in
Package Level 1 Height	654 mm 25.748 in
Package Level 1 Width	502 mm 19.764 in
Package Level 1 Units	1 case

## Technical

Number of Phases	3-phase
Degree of Protection	IP21
Enclosure Type NEMA	Type1
Altitude	4000 m
Power Factor	1.00
Sound dB (A)	68 dB(A)
Multiple Battery Information	Lithium Coin; CR2032; 220 mAh; 3 V; 1 pc; 3 g
Frequency (f)	47.5 ... 63 Hz
Frame Size	R8
Input Voltage (U <sub>in</sub> )	380 ... 480 V
Mounting Type	Wall-mounted
Communication Protocol	BACNET CAN DeviceNet Ethernet/IP LON MODBUS Other Bus Systems PROFIBUS PROFINET IO TCP/IP
Number of Hardware	Industrial Ethernet 0

Interfaces

Other 2  
 Parallel 2  
 PROFINET 0  
 RS-232 0  
 RS-422 0  
 RS-485 1  
 Serial TTY 0  
 USB 1

Includes

Control unit  
 PC connection

Analog Inputs	2
Analog Outputs	2
Number of Digital In/Outputs	6 / 3
Output Current, Normal Use ( $I_n$ )	169 A
Output Current, Light-Overload Use ( $I_{LD}$ )	161 A
Output Current, Heavy-Duty Use ( $I_{HD}$ )	145 A
Output Power, Normal Use ( $P_n$ )	90 kW
Output Power, Light-Overload Use ( $P_{LD}$ )	90 kW
Output Power, Heavy-Duty Use ( $P_{HD}$ )	75 kW
Apparent Power Output	2963 W
Efficiency Level	117 kV·A
Standby Loss	IE2
Complete Drive Module Efficiency (IEC61800-9-2)	72 W

Operating Point Frequency / Current	Absolute Loss	Efficiency	Relative Loss
0/25 %	596 W	91.8 %	0.5 %
0/50 %	817 W	94.0 %	0.7 %
0/100 %	1434 W	94.6 %	1.2 %
50/25 %	674 W	95.2 %	0.6 %
50/50 %	981 W	96.3 %	0.8 %
50/100 %	1837 W	96.5 %	1.6 %
90/50 %	1271 W	97.3 %	1.1 %
90/100 %	2963 W	96.8 %	2.5 %

Temperature Rating Maximum 55 °C  
 Minimum -15 °C

Ecodesign Exemption Energy efficiency data is not provided for the drive. The low-harmonic drives are exempt from the EU ecodesign requirements (Regulation EU/2019/1781, §2.3.d).

**Technical UL**

Output Current, Heavy-Duty Use (UL)	124 A
Output Current, Light-Overload Use (UL)	156 A

Output Current, Normal Use (UL)	156 A
Output Power, Heavy-Duty Use (UL)	100 Hp
Output Power, Light-Overload Use (UL)	125 Hp
Output Power, Normal Use (UL)	125 Hp

### Certificates and Declarations

Declaration of Conformity - CE	3AXD10001818627
REACH Date	20250905
REACH Declaration	9AKK107992A7060
REACH Information	True - contains substances > 0.1 mass percentage
RoHS Date	20240508
RoHS Declaration	3AXD10001818627
RoHS Information	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019

### Environmental

SCIP	c41cae70-029d-4bd5-b843-6eabecf29170 Finland
WEEE Category	4. Large Equipment (Any External Dimension More Than 50 cm)

### External Classifications and Standards

ETIM 9	EC001857 - Frequency converter =< 1 kV
ETIM 10	EC001857 - Frequency converter =< 1 kV
UNSPSC	39122001

### Categories

Drives → Low Voltage AC Drives → Industry-Specific Drives → Drives for HVAC → ACH580-31 - Wall-mounted ultra low harmonic drive for HVAC



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