

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)



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)
	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

Country of Origin	Finland (FI)
Customs Tariff Number	85044085
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

Container Information

Gross Volume	126.801 dm³
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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 carton

Technical

Number of Phases	3
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 _{in})	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, Heavy-Duty Use (I_{HD})	145 A
Output Current, Light-Overload Use (I_{LD})	161 A
Output Current, Normal Use (I_n)	169 A
Output Power, Heavy-Duty Use (P_{HD})	75 kW
Output Power, Light-Overload Use (P_{LD})	90 kW
Output Power, Normal Use (P_n)	90 kW
Apparent Power Output	117 kV·A
Efficiency Level	IE2
Standby Loss	72 W
Complete Drive Module Efficiency (61800-9-2)	

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).

Additional Information	
Product Main Type	ACH580-31
Product Name	Frequency converter

Classifications		
ETIM 8	EC001857 - Frequency converter =< 1 kV	
ETIM 9	EC001857 - Frequency converter =< 1 kV	
UNSPSC	39122001	

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

Categories

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

