MOTION SERVICES

# Maintenance schedule for ACS580, ACH580 and ACQ580 drives



Recommended maintenance intervals and component replacements are based on specified operational and environmental conditions. ABB recommends annual drive inspections to ensure the highest reliability and optimum performance.

**Note**
Long term operation near or over the maximum specified ratings or environmental conditions may require shorter maintenance intervals. Check the device specific technical specifications in the relevant hardware manual and consult your local ABB Service for maintenance recommendations at:
**/new.abb.com/channel-partners/search**

More detailed maintenance information can be found in maintenance instructions, product manuals and on the Internet:
**/new.abb.com/drives**

See the below listed technical notes for more details on component aging and possible effects on the drive.

| | |
|---|---|
| Electrolytic capacitors | 4FPS10001015180 |
| Film capacitors | 4FPS10001454838 |
| Cooling fans | 4FPS10001147616 |
| PCBAs | 4FPS10001147621 |
| Power supplies | 4FPS10001454842 |


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# ACS580-01/-04, ACH580-01/-04/-31/-34 and ACQ580-01/-04/-31/-34 ACS580-07, ACH580-07, ACQ580-07 Cabinet Drives

## FUNCTIONAL SAFETY ACTIONS

| | | |
|---|---|---|
| Safety function test interval | I | The drive can be a part of a safety system or application which requires periodic testing. The customer defines the test interval of the complete safety system or application. Use this test interval to test the safety function. |
| Safety component expiry (Mission time $T_M$) 20 years | R | The mission time of the ABB LV AC drive safety component is 20 years in the safety data of the drive product. The safety data is introduced in the product hardware manual. |

## RECOMMENDED ACTIONS BY THE USER

| | Years from startup | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| **Connections and environment** | | | | | | | | | | | | | | | | | | | | | |
| Cabinet door filters IP54 (Air filter replacement may be needed more frequently in dusty environment) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| Quality of supply voltage | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| **Spare parts** | | | | | | | | | | | | | | | | | | | | | |
| Spare parts inventory | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I |
| DC circuit capacitors reforming, spare modules and spare capacitors | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P | P |
| **Inspections by user** | | | | | | | | | | | | | | | | | | | | | |
| IP22 and IP42 air inlet and outlet meshes | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I |
| Tightness of terminals | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I |
| Dustiness, corrosion and temperature | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I |
| Heat sink cleaning | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I |
| **Other** | | | | | | | | | | | | | | | | | | | | | |
| ABB-SACE Air circuit breaker maintenance | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I |
| ABB Contactors maintenance | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I |
| [1] Control unit (CCU/ZCU/UCU) condition | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I |

[1] In harsh environmental conditions (heat/dust), control unit replacement is recommended after 12 years of operation time

**Legend**

| | |
|---|---|
| I | Inspection (visual inspection and maintenance action if needed) |
| P | Performance of on/off-site work (commissioning, tests, measurements, or other work) |
| R | Replacement |



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| COOLING | Years from startup | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| **Fans, IP21 frames R0 to R9, R9e** | | | | | | | | | | | | | | | | | | | | | |
| Main cooling fans R0-R5 | | | | | | R | | | | | | R | | | | | | R | | | |
| Main cooling fans R6-R9, R9e | | | | | | | | | R | | | | | | | | | R | | | |
| Auxiliary cooling fan for circuit boards, R4v2 89A/IP21 & R4v2 77A/IP21, R5v2 | | | | | | R | | | | | | R | | | | | | R | | | |
| Auxiliary cooling fan for circuit boards, only R5 - R9, R9e | | | | | | | | | R | | | | | | | | | R | | | |
| **Fans, IP55 frames R0 to R9, R9e** | | | | | | | | | | | | | | | | | | | | | |
| Main cooling fans R0-R5 | | | | | | R | | | | | | R | | | | | | R | | | |
| Main cooling fans R6-R9, R9e | | | | | | | | | R | | | | | | | | | R | | | |
| Auxiliary cooling fan for circuit boards R0-R2 (Main fan on Bottom) | | | R | | | R | | | R | | | R | | | R | | | R | | | R |
| Auxiliary cooling fan for circuit boards R1-R2 (Main fan on Top) | | | | | | R | | | | | | R | | | | | | R | | | |
| Auxiliary cooling fan for circuit boards R3, R4 | | | | | | | | | R | | | | | | | | | R | | | |
| Auxiliary cooling fan for circuit boards R4v2, R5v2 | | | | | | R | | | | | | R | | | | | | R | | | |
| Auxiliary cooling fan(s) for circuit boards R5-R9, R9e | | | | | | | | | R | | | | | | | | | R | | | |
| Auxiliary cooling fan in IP55 cover, only R8 and R9 | | | | | | | | | R | | | | | | | | | R | | | |
| Auxiliary cooling fan in IP55 cover R9e | | | | | | | | | R | | | | | | | | | R | | | |
| **Fans, ACH580-31, ACQ580-31 frames R3, R6, R8** | | | | | | | | | | | | | | | | | | | | | |
| Main cooling fans | | | | | | | | | R | | | | | | | | | R | | | |
| Auxiliary cooling fans | | | | | | | | | R | | | | | | | | | R | | | |
| **Fans, frames R10 and R11** | | | | | | | | | | | | | | | | | | | | | |
| Main cooling fans | | | | | | | | | R | | | | | | | | | R | | | |
| Circuit board compartment cooling fans | | | | | | | | | R | | | | | | | | | R | | | |
| **Cabinet cooling fan R6 to R9** | | | | | | | | | | | | | | | | | | | | | |
| Cabinet cooling fan, door (IP21, IP42, IP54) | | | | | | | | | R | | | | | | | | | R | | | |
| **Cabinet cooling fan R10 to R11** | | | | | | | | | | | | | | | | | | | | | |
| Internal 50Hz | | | | | | | | | R | | | | | | | | | R | | | |
| Internal 60Hz | | | | | | R | | | | | | R | | | | | | R | | | |
| Door 50 Hz | | | | | | | | | R | | | | | | | | | R | | | |
| Door 60Hz | | | | | | | | | R | | | | | | | | | R | | | |
| IP54 50Hz | | | | | | | | | R | | | | | | | | | R | | | |
| IP54 60Hz | | | | | | R | | | | | | R | | | | | | R | | | |
| Cabinet cooling fan IP54 | | | | | | | | | R | | | | | | | | | R | | | |

**Legend**

| | |
|---|---|
| I | Inspection (visual inspection and maintenance action if needed) |
| P | Performance of on/off-site work (commissioning, tests, measurements, or other work) |
| R | Replacement |


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| AGING | Years from startup | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| **Control panel battery** | | | | | | | | | | | | | | | | | | | | | |
| Control panel battery | | | | | | | | | R | | | | | | | | | R | | | |
| [1] Cabinet auxiliary 24VDC power supplies and buffers | | | | | | | | | | | | R | | | | | | | | | |
| **Frequency converter frames R6 to R9 (Except ACH580-31 & ACQ580-31 R6)** | | | | | | | | | | | | | | | | | | | | | |
| DC circuit electrolytic capacitors and discharging resistors | | | | | | | | | R | | | | | | | | | R | | | |
| Module internal circuit boards ZINT, ZPOW, ZINP, QINT | | | | | | | | | | | | R | | | | | | | | | |
| DC busbar | | | | | | | | | R | | | | | | | | | R | | | |
| **Frequency converter frames R9e** | | | | | | | | | | | | | | | | | | | | | |
| DC circuit electrolytic capacitors | | | | | | | | | R | | | | | | | | | R | | | |
| Module internal circuit boards ZINT, ZPOW, ZINP | | | | | | | | | | | | R | | | | | | | | | |
| **Frequency converter ACH580-31 & ACQ580-31 R6 HW 2** | | | | | | | | | | | | | | | | | | | | | |
| DC capacitor board QCAP | | | | | | | | | R | | | | | | | | | R | | | |
| **Frequency converter frames R10 to R11** | | | | | | | | | | | | | | | | | | | | | |
| Flat ribbon cables | | | | | | | | | | | | R | | | | | | | | | |
| DC circuit electrolytic capacitors and discharging resistors | | | | | | | | | R | | | | | | | | | R | | | |
| Module internal circuit boards BPOW / ZPOW | | | | | | | | | | | | R | | | | | | | | | |
| Module internal circuit boards BFPS, BGDR, ZBDR, ZINT, BINT | | | | | | | | | | | | R | | | | | | | | | |

[1] Check amount and types of Auxiliary power supplies from cabinet or manufactured BOM.

**Legend**

| | |
|---|---|
| I | Inspection (visual inspection and maintenance action if needed) |
| P | Performance of on/off-site work (commissioning, tests, measurements, or other work) |
| R | Replacement |


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