

# ABB industrial drives

## ACS850, drive modules, 1.5 to 600 Hp (1.1 to 500 kW)

ABB industrial drive modules are designed for fast, cost effective installation and integration into cabinets. The IP20/UL Type Open compliant modules (G frame IP00), the smallest only 3.7 in wide, allow side-by-side installation.

The compact size leads to cabinets with shorter run lengths, ultimately providing smaller and less expensive control rooms.



### Customizable to meet all needs

The modularity and wide range of options, including different fieldbus adapters and speed feedback devices, increases the potential for customization. Embedded ModBus as standard and one of the most extensive standard I/O offering on the market make these new drive modules ideal for complex applications. In addition, the drive's flexible construction allows you to select only the features that are needed.

All application parameters can be easily selected via the control panel. In addition, intuitive PC tools are available to carry out function block programming, allowing the user to customize a drive for a specific application without the need for additional hardware.

### Maximized process uptime

Many features have been implemented to enhance the reliability and durability of the drives:

- Maintenance assistant: to take care of the preventive maintenance of the drive and its components
- Diagnostic assistant: to help locate the cause of any disturbance to the drive and suggest possible remedies
- Coated boards within the drive: for increased protection

A removable memory unit provides easy maintenance by storing the complete firmware and all user settings and motor data. Thus, if the drive is replaced, it can be recommissioned quickly and easily without needing to install software or download data.

### Fast and easy commissioning

ABB industrial drive modules feature several macros which have pre-set, application-specific parameter settings, enabling fast and easy commissioning. Complementing the pre-set macros, the drive has an intelligent and intuitive start-up assistant with help function to make parameter-by-parameter setting easy. In addition, there are several

advanced functions such as short and long parameter menus, I/O mapping and changed parameters list, making the drive easy to use. All these functions are accessed via the user-friendly control panel.

### Safety as standard

Additional safety is provided by an integrated Safe Torque-Off (STO) feature, which removes the torque from the motor shaft. This safety feature conforms with the requirements of SIL 3/IEC 61508, Cat 4/EN 954-1, EN ISO 13849-1:PL e. Solutions for other safety functions such as Safe Brake Control (SBC) and Safe Limited Speed (SLS) are also available.

## Precise and reliable control

The performance and functionality of ABB industrial drive modules is based on the ultimate in motor control technology, Direct Torque Control (DTC). DTC has new enhanced features such as:

- Low motor noise mode
- Enhanced motor identification at standstill
- Higher output frequency
- Support for both asynchronous and permanent magnet motors as standard
- Improved torque and speed performance, especially at low speed

For master-follower configurations, drive-to-drive communication is provided as standard.

## Save money and the environment

The modules feature an energy optimizer which maximizes the total efficiency of the drive and the motor. The energy saving calculator records the amount of energy consumed and saved in kWh. The drive cooling fans are also monitored and controlled for even greater energy savings.

These features will allow users to lower their power consumption, helping them reduce CO<sub>2</sub> emissions.

## Services and support

The modules are complemented by extensive documentation and support material for cabinet installation. Advanced PC tools are also available for dimensioning, programming, commissioning and maintaining of the drives.

The ABB industrial drive modules are supported by the company's extensive global service infrastructure covering more than 60 countries along with a strong partner network.

Feature / frame size	A	B	C	D	E0	E	G
<b>Current and power</b>							
Nominal current	3 to 8 A	10.5 to 18 A	25 to 50 A	61 to 94 A	103 to 144 A	166 to 210 A	430 to 720 A
Maximum current	4.4 to 10.5 A	13.5 to 21 A	33 to 66 A	78 to 124 A	131 to 170 A	202 to 348 A	588 to 1017 A
Typical motor power (400 V)	1.5 to 5 hp (1.1 to 3 kW)	5 to 10 hp (4 to 7.5 kW)	15 to 30 hp (9 to 22 kW)	40 to 60 hp (30 to 45 kW)	75 to 100 hp (55 to 75 kW)	125 to 200 hp (90 to 160 kW)	250 to 500 hp (200 to 400 kW)
Typical motor power (500 V)	1.5 to 5 hp (1.5 to 4 kW)	5 to 10 hp (5.5 to 11 kW)	15 to 30 hp (15 to 30 kW)	40 to 60 hp (37 to 55 kW)	75 to 100 hp (55 to 90 kW)	125 to 200 hp (110 to 200 kW)	350 to 600 hp (220 to 500 kW)
Braking chopper	●	●	●	●	□	□	□
Braking resistor	■	■	■	■	■	■	■
Input choke	■	■	●	●	●	●	●
EMC filter / C3 *	■	■	□	□	□	□	□
EMC filter / C2	■	■	■	■	□	□	–
<b>Mounting and cooling</b>							
Air cooling	●	●	●	●	●	●	●
Side-by-side mounting	●	●	●	●	●	●	–
DIN-rail mounting	●	●	–	–	–	–	–
Removable power connectors	●	●	–	–	–	–	–
Removable control connectors	●	●	●	●	●	●	●

● = standard □ = option, built-in ■ = option, external – = not available

\* External EMC filters are plug-in type filters that fit to the drive within its installation footprint.

## Dimensions

Frame size	Height <sup>1)</sup>		Depth <sup>2)</sup>		Width		Weight	
	in	mm	in	mm	in	mm	lb	kg
A	14.3	364	7.8	197	3.7	93	7	3
B	15.0	380	10.8	274	4.0	101	11	5
C	22.3	567	10.9	276	6.5	166	35	16
D	22.3	567	10.9	276	8.7	221	51	23
E0	23.7	602	13.9	354	10.9	276	77	35
E	27.6	700	17.4	443	12.3	312	147	67
G	61.6	1564	22.4	568	22.1	562	451	205

### Notes

All dimensions and weights are without options.

<sup>1)</sup> Height is the maximum measure without clamping plates.

<sup>2)</sup> An additional 50 mm should be reserved for feedback cabling if FEN-01, 11 or 21 options is used.

For more information please contact:

[www.abb.us/drives](http://www.abb.us/drives)

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