

# ABB standard drives

ACS550, 0.75 to 355 kW / 1 to 500 hp

## Technical catalogue





# Two ways to select your drive

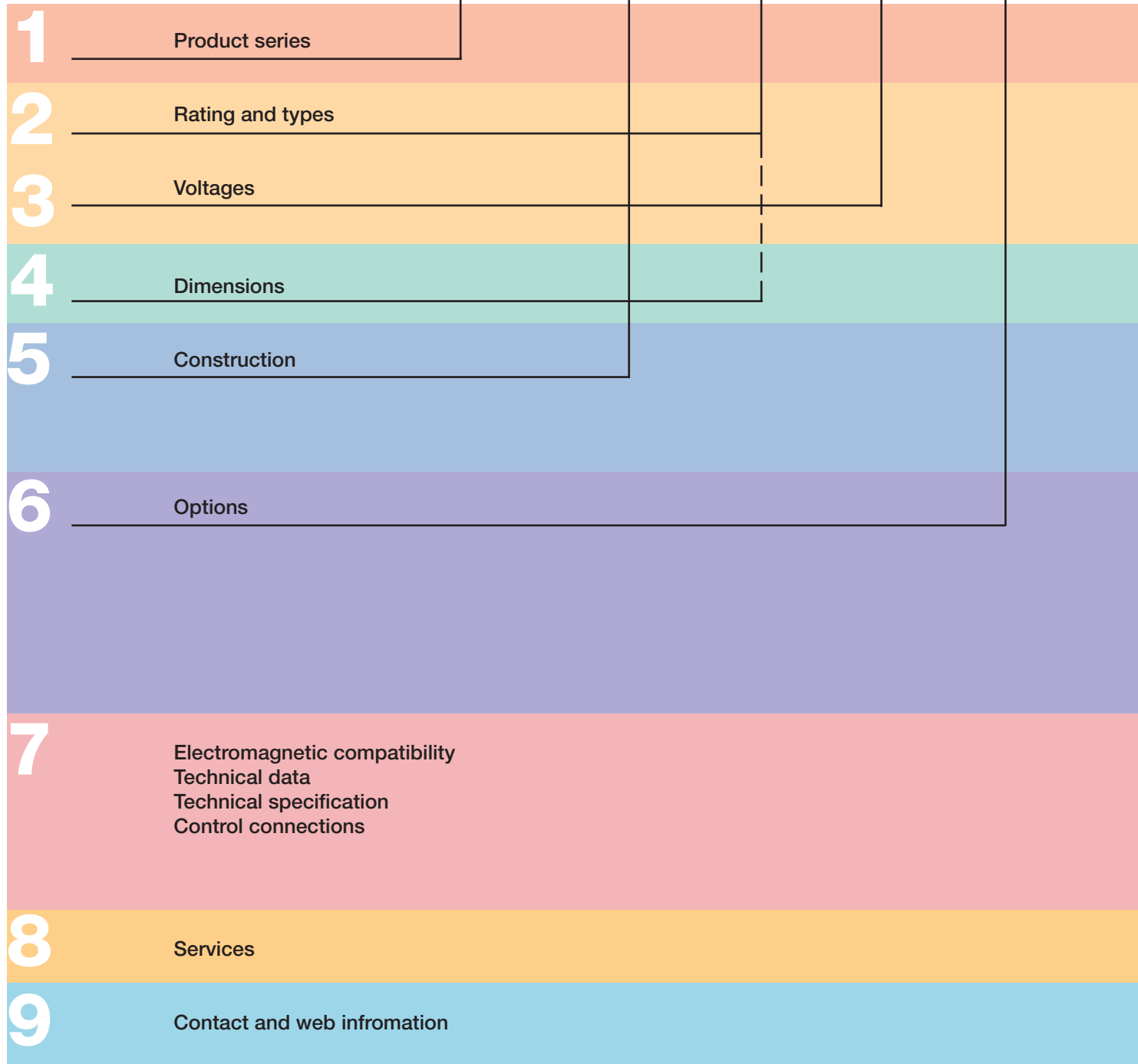
**Choice 1:** Simply contact your local ABB drives sales office (see page 15) and let them know what you want. Use page 3 as a reference section for more information.

**OR**

**Choice 2:** Build up your own ordering code using the simple 6-step approach below. Each step is accompanied by a reference to a page that is filled with useful information.

**Type code:**

ACS550 - 01 - 03A3 - 4 + B055



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# ABB standard drives



ACS550 - 01 - 03A3 - 4 + B055

## What is an ABB standard drive?

The ABB standard drive is simple to buy, install, configure and use, saving considerable time. It is widely available through ABB's distributors, hence the use of the term standard. The drive has common user and process interface with fieldbus, common software tools for sizing, commissioning, maintenance and common spare parts.

## Where can it be used?

The ABB standard drive can be used in a wide range of industries. Typical applications include pump, fan and constant torque use, such as conveyors. The ABB standard drive is ideal in those situations where there is a need for simplicity to install, commission and use and where customizing or special product engineering is not required.

## ABB standard drive promises

- Precise delivery
- Quick installation
- Rapid start-up
- Trouble-free use

## Highlights

- Assistant control panel providing intuitive use of the drive
- Patent pending swinging choke for superior harmonic reduction
- Sensorless vector control
- Coated boards for harsh environments
- Integral RFI filter for 1<sup>st</sup> and 2<sup>nd</sup> environment as standard
- Flexible fieldbus system with built-in Modbus and numerous internally mountable fieldbus adapters
- UL, cUL, CE, C-Tick and GOST R approved

## What are its main features?

Feature	Note	Benefit
Assistant control panel	Two soft-keys, function of which changes according to the state of the panel Built-in "Help" button Real-time clock, allows timed tracing of faults and setting of parameters to activate at various times of day Changed parameters menu	Easy commissioning Fast set-up Easier configuration Rapid fault diagnosis Quick access to recent parameter changes
Brake chopper	Built-in up to 11 kW	Reduced cost
Chokes	Swinging chokes - matches the right inductance to the right load, thereby suppressing and reducing harmonics	Reduces Total Harmonic Distortion (THD) emissions up to 25%
Connectivity	Simple to install: Easy connection of cables Easy connection to external fieldbus systems through multiple I/Os and plug-in options	Reduced installation time Secure cable connections
Diagnostic assistant	Activated when fault occurs	Quick fault diagnostics
EMC	1 <sup>st</sup> and 2 <sup>nd</sup> environment RFI filters as standard	No need for additional external filtering
Fieldbus	Built-in Modbus using RS 485 Optional plug-in fieldbus modules	Reduced cost
Intuitive features	Noise optimisation: Increases switching frequency of drive when drive temperature is reduced Controlled cooling fan: the drive is cooled only when necessary	Considerable motor noise reduction Reduces inverter noise and improves energy efficiency
Maintenance assistant	Monitors running hours or motor rotation	Takes care of preventative maintenance of drive, the motor or run application
Mounting template	Supplied separately with unit	Quick and easy to mark mounting screw holes on installation surface
Sensorless vector control	Improved motor control performance	Enables wider range of applications
Start-up assistant	Guides user through all essential settings without going to parameter list	Easy set-up of parameters

# Ratings, types and voltages



ACS550 - 01 - 03A3 - 4 + B055

## Type code

This is the unique reference number (shown above and in column 7, right) that clearly identifies your drive by power rating and frame size. Once you have selected the type code, the frame size (column 8) can be used to determine the drives dimensions, shown on the next page.

## Voltages

The ACS550 is available in two voltage ranges:

4 = 380 - 480 V

2 = 208 - 240 V

Insert either “4” or “2”, depending on your chosen voltage, into the type code shown above.

## 3-phase supply voltage 380-480 V

### Wall mounted units

Ratings						Type code	Frame size
Normal use			Heavy-duty use				
P <sub>N</sub> kW	P <sub>N</sub> hp	I <sub>2N</sub> A	P <sub>hd</sub> kW	P <sub>hd</sub> hp	I <sub>2hd</sub> A		
1.1	1.5	3.3	0.75	1	2.4	ACS550-01-03A3-4	R1
1.5	2	4.1	1.1	1.5	3.3	ACS550-01-04A1-4	R1
2.2	3	5.4	1.5	2	4.1	ACS550-01-05A4-4	R1
3	4	6.9	2.2	3	5.4	ACS550-01-06A9-4	R1
4	5.4	8.8	3	4	6.9	ACS550-01-08A8-4	R1
5.5	7.5	11.9	4	5.4	8.8	ACS550-01-012A-4	R1
7.5	10	15.4	5.5	7.5	11.9	ACS550-01-015A-4	R2
11	15	23	7.5	10	15.4	ACS550-01-023A-4	R2
15	20	31	11	15	23	ACS550-01-031A-4	R3
18.5	25	38	15	20	31	ACS550-01-038A-4	R3
22	30	44	18.5	25	38	ACS550-01-044A-4	R4
30	40	59	22	30	44	ACS550-01-059A-4	R4
37	50	72	30	40	59	ACS550-01-072A-4	R4
45	75	96	37	60	77	ACS550-01-096A-4	R5
55	100	124	45	75	96	ACS550-01-124A-4	R6
75	125	157	55	100	124	ACS550-01-157A-4	R6
90	150	180	75	125	156	ACS550-01-180A-4	R6
110	150	195	90	125	162	ACS550-01-195A-4	R6

### Free standing units

132	200	245	110	150	192	ACS550-02-245A-4	R7
160	200	289	132	200	224	ACS550-02-289A-4	R7
200	300	368	160	250	302	ACS550-02-368A-4	R8
250	400	486	200	350	414	ACS550-02-486A-4	R8
280	450	526	250	400	477	ACS550-02-526A-4	R8
315	500	602	280	450	515	ACS550-02-602A-4	R8
355	500	645	315	500	590	ACS550-02-645A-4	R8

## 3-phase supply voltage 208-240 V

### Wall mounted units

Ratings						Type code	Frame size
Normal use			Heavy-duty use				
P <sub>N</sub> kW	P <sub>N</sub> hp	I <sub>2N</sub> A	P <sub>hd</sub> kW	P <sub>hd</sub> hp	I <sub>2hd</sub> A		
0.75	1.0	4.6	0.75	0.8	3.5	ACS550-01-04A6-2	R1
1.1	1.5	6.6	0.75	1.0	4.6	ACS550-01-06A6-2	R1
1.5	2.0	7.5	1.1	1.5	6.6	ACS550-01-07A5-2	R1
2.2	3.0	11.8	1.5	2.0	7.5	ACS550-01-012A-2	R1
4.0	5.0	16.7	3.0	3.0	11.8	ACS550-01-017A-2	R1
5.5	7.5	24.2	4.0	5.0	16.7	ACS550-01-024A-2	R2
7.5	10.0	30.8	5.5	7.5	24.2	ACS550-01-031A-2	R2
11.0	15.0	46.2	7.5	10.0	30.8	ACS550-01-046A-2	R3
15.0	20.0	59.4	11.0	15.0	46.2	ACS550-01-059A-2	R3
18.5	25.0	74.8	15.0	20.0	59.4	ACS550-01-075A-2	R4
22.0	30.0	88.0	18.5	25.0	74.8	ACS550-01-088A-2	R4
30.0	40.0	114	22.0	30.0	88.0	ACS550-01-114A-2	R4
37.0	50.0	143	30.0	40	114	ACS550-01-143A-2	R6
45.0	60.0	178	37.0	50	150	ACS550-01-178A-2	R6
55.0	75.0	221	45.0	60	178	ACS550-01-221A-2	R6
75.0	100	248	55.0	75	192	ACS550-01-248A-2	R6

Normal use vs heavy-duty use. For the majority of pump, fan and conveyor applications, select “Normal use” figures. For high overload requirements, select “Heavy-duty use” figures. If in doubt contact your local ABB sales office or your drives distributor - see page 15.

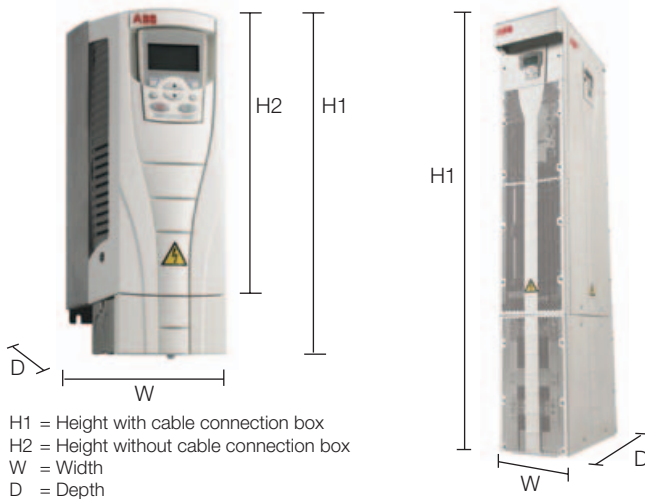
P<sub>N</sub> for kW = Typical motor power in 400 V at normal use  
P<sub>N</sub> for hp = Typical motor power in 460 V at normal use  
P<sub>hd</sub> for kW = Typical motor power in 400 V at heavy-duty use  
P<sub>hd</sub> for hp = Typical motor power in 460 V at heavy-duty use



# Dimensions

ACS550 - 01 - 03A3 - 4 + B055

## Wall-mounted drives    Free-standing drives    Wall mounted units



Frame size	Dimensions and weights								
	IP21 / UL type 1					IP54 / UL type 12			
	H1 mm	H2 mm	W mm	D mm	Weight kg	H mm	W mm	W mm	Weight kg
R1	369	330	125	212	6.5	449	213	234	8.2
R2	469	430	125	222	9	549	213	245	11.2
R3	583	490	203	231	16	611	257	253	18.5
R4	689	596	203	262	24	742	257	284	26.5
R5	739	602	265	286	34	776	369	309	38.5
R6	880	700	300	400	69	924	410	423	80

### Free standing units

R7	1507	n/a	250 <sup>1)</sup>	520 <sup>1)</sup>	115
R8	2024	n/a	347 <sup>1)</sup>	617 <sup>1)</sup>	230

<sup>1)</sup> The dimensions apply to bookshelf mounting. In flat type mounting the width and depth change places.  
n/a = not applicable

# Construction

ACS550 - 01 - 03A3 - 4 + B055

“01” within the type code (shown above) varies depending on the drive mounting arrangement, and power rating. Choose the correct one for your needs from the table below:

01	02	for IP54 units...
<ul style="list-style-type: none"> <li>■ Wall mounted, frame size R1-R6</li> <li>■ 0.75 to 110 kW</li> <li>■ IP21</li> <li>■ Built-in EMC filter</li> <li>■ Coated boards</li> <li>■ Standard software</li> <li>■ Built-in Modbus interface</li> <li>■ Cable connection box</li> <li>■ Brake chopper in frame sizes R1-R2</li> <li>■ Assistant control panel</li> </ul>	<ul style="list-style-type: none"> <li>■ Free standing, frame size R7-R8</li> <li>■ 110 to 355 kW</li> <li>■ IP21</li> <li>■ Built-in EMC filter</li> <li>■ Coated boards</li> <li>■ Standard software</li> <li>■ Built-in Modbus interface</li> <li>■ Pedestal unit</li> <li>■ Assistant control panel</li> </ul>	<ul style="list-style-type: none"> <li>■ If IP54 is required, simply select “01” and then see page 7 to find the correct “Option” code. Free standing (02) units are not available in IP54.</li> </ul>



# Assistant control panel

For easy drive programming, a detachable, multilingual alphanumeric assistant control panel is delivered as standard. The control panel has various assistants and a built-in help function to guide the user. It includes a real time clock, which can be used during fault logging and in controlling the drive, such as start/stop. The control panel can be used for copying parameters for back up or for downloading to another drive. A large graphical display and soft keys make it extremely easy to navigate.



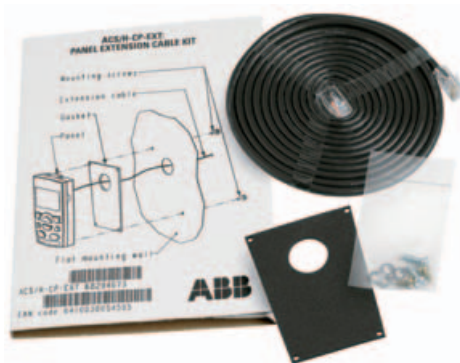
## Options

### Control interfaces

ACS550 - 01 - 03A3 - 4 + B055

#### Panel mounting kit

The panel mounting kit enables mounting of control panels on cabinet doors. This kit includes a 3 m extension cable, a gasket, mounting screws and a mounting template. The control panel has IP54 degree of protection if installed correctly.



#### How to select options

The options shown in the table are available within the ACS550 range. Each has an associated 4-figure option code, which is shown in the table. It is this code that replaces B055 in the type code above. You can order as many options as required, simply by extending the code as necessary.

#### Available options

<b>Protection class</b>		
B055	IP54	
<b>Control panel</b>		
OJ400	If no control panel is required	
J404	Basic control panel	ACS-CP-C
- 1)	Panel mounting kit	ACS/H-CP-EXT
<b>I/O options<sup>2)</sup></b>		
L511	Relay output extension	OREL-01
<b>Fieldbus<sup>3)</sup></b>		
K451	DeviceNet	RDNA-01
K452	LonWorks	RLON-01
K454	Profibus-DP	RPBA-01
- 1)	CANOpen	RCAN-01
- 1)	ControlNet	RCNA-01
- 1)	Ethernet Modbus TCP	RETA-01

<sup>1)</sup> Ordering with a separate MRP code number.

<sup>2)</sup> One slot available for relay.

<sup>3)</sup> One slot available for fieldbus adapter. Modbus built-in as standard.

#### Basic control panel

The basic control panel features a single line numeric display. The panel can be used to control the drive, set the parameter values or copy them from one drive to another.







# Options

## Plug-in options

ACS550 - 01 - 03A3 - 4 + B055

### Relay output extension option module

This plug-in option offers three additional relay outputs. They can be used, for example, in pump and fan control or many supervisory functions. All the relays can be programmed to on/off by using the assistant control panel's clock. Alternatively, fieldbus can be used to control any external components in the system.

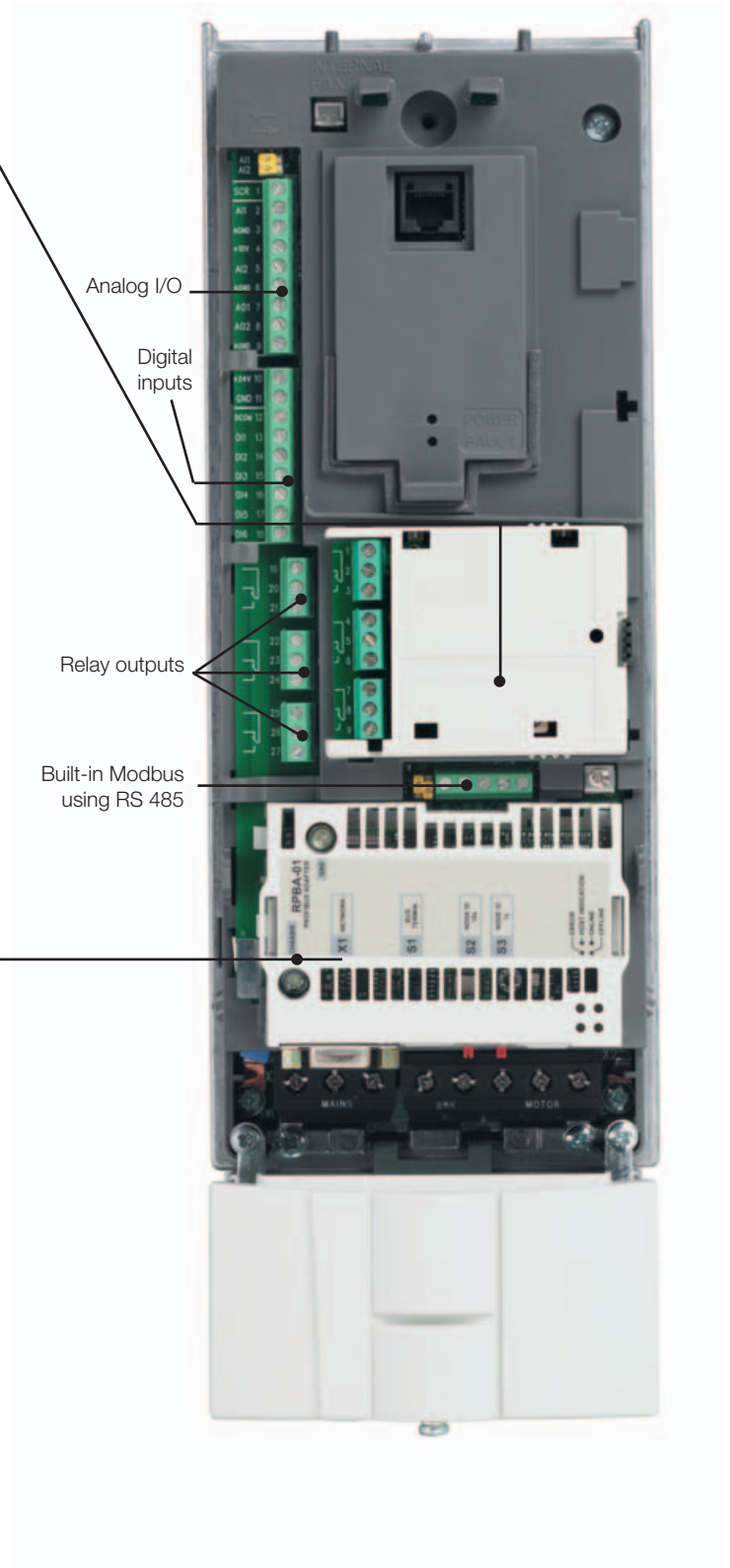
### Plug-in fieldbus module

The plug-in fieldbus options bring connectivity to major automation systems. A single twisted pair avoids large amounts of conventional cabling, thereby reducing cost and increasing system reliability.

The ACS550 supports the following fieldbus options:

- DeviceNet
- LONWORKS®
- PROFIBUS DP
- CANopen
- ControlNet
- Ethernet Modbus TCP

For type codes see page 7







# Options

## External options

A separate order line and type code is required for any of these external options. These numbers are shown in the last column of the respective tables.

### DriveWindow Light 2

DriveWindow Light 2 is PC software used for rapid commissioning and controlling of drives. It has features for programming, monitoring, trouble shooting and maintenance. It is also a set-up and control tool which is Win98, WinNT, Win2000 and WinXP compatible.

DriveWindow Light 2 operates both off- and on-line. No additional PC hardware is required. It uses the PC's RS-232 port. It is compatible with drive types ACS140, ACS160, ACS400, ACS550, ACS600, ACS800 and DCS400.

### DriveWindow Light 2 features

- Graphical start-up wizards
- Off- and on-line viewing and changing of drive parameters
- Backup and restore parameters. In a fault situation the parameters can be reloaded resulting in time savings.
- Graphical monitoring of actual signal values
- I/O mapping table
- Control of the drive

### Output chokes

Output chokes are used when motor cables above normal length are required. Cable can be roughly 1.5 times standard cable length, see below.

Type code	Frame size	ACS550 nominal current $I_{2N}$ A	Output choke type code <sup>1)</sup>	Choke thermal current I A	Max. cable length without choke <sup>2)</sup> m	Max. cable length with choke <sup>3)</sup> m
<b>U<sub>N</sub> = 380 - 480 V (380, 400, 415, 440, 460, 480 V)</b>						
ACS550-01-03A3-4	R1	3.3	NOCH-0016-6X	19	100	150
ACS550-01-04A1-4	R1	4.1	NOCH-0016-6X	19	100	150
ACS550-01-05A4-4	R1	5.4	NOCH-0016-6X	19	100	150
ACS550-01-06A9-4	R1	6.9	NOCH-0016-6X	19	100	150
ACS550-01-08A8-4	R1	8.8	NOCH-0016-6X	19	100	150
ACS550-01-012A-4	R1	11.9	NOCH-0016-6X	19	100	150
ACS550-01-015A-4	R2	15.4	NOCH-0016-6X	19	200	250
ACS550-01-023A-4	R2	23	NOCH-0030-6X	41	200	250
ACS550-01-031A-4	R3	31	NOCH-0030-6X	41	200	250
ACS550-01-038A-4	R3	38	NOCH-0030-6X	41	200	250
ACS550-01-044A-4	R4	44	NOCH-0070-6X	112	200	300
ACS550-01-059A-4	R4	59	NOCH-0070-6X	112	200	300
ACS550-01-072A-4	R4	72	NOCH-0070-6X	112	200	300
ACS550-01-096A-4	R5	96	NOCH-0070-6X	112	300	300
ACS550-01-124A-4	R6	124	NOCH-0120-6X	157	300	300
ACS550-01-157A-4	R6	157	FOCH-0260-70	289	300	300
ACS550-01-180A-4	R6	180	FOCH-0260-70	289	300	300
ACS550-01-195A-4	R6	195	FOCH-0260-70	289	300	300
ACS550-02-245A-4	R7	245	FOCH-0260-70	289	300	300
ACS550-02-289A-4	R7	289	FOCH-0320-50	445	300	300
ACS550-02-368A-4	R8	368	FOCH-0320-50	445	300	300
ACS550-02-486A-4	R8	486	FOCH-0610-70	720	300	300
ACS550-02-526A-4	R8	526	FOCH-0610-70	720	300	300
ACS550-02-602A-4	R8	602	FOCH-0610-70	720	300	300
ACS550-02-645A-4	R8	645	FOCH-0610-70	720	300	300

<sup>1)</sup> The last digit of the output choke type defines the degree of protection; X stands for 2 = IP22 or 5 = IP54, 0 = IP00  
<sup>2)</sup> Cable lengths according to 4 kHz switching frequency  
<sup>3)</sup> Minimum switching frequency to be used with du/dt filter is 4 kHz

**Note**  
 An output choke does not improve the EMC performance of the drive. To fulfil local EMC requirements use sufficient RFI filtering. For more information refer to the ACS550 Technical reference.



# Options

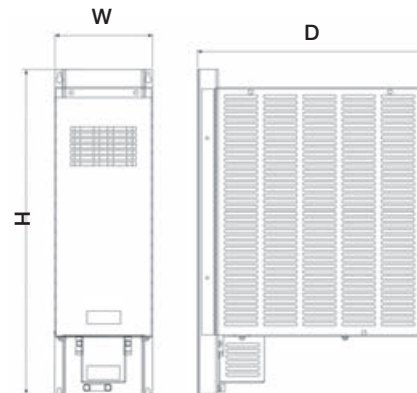
## External options

### Brake units and choppers

Frame sizes R1 to R2 are delivered with integrated brake choppers as standard. Other units can use the compact-sized brake units which include brake chopper and resistor. For more information please refer to the ACS-BRK Brake Units Installation and Start-up Guide.

#### Brake units technical data

Frequency converter input voltage	Resistor ohm	Continuous output W	Max. output 20 s W	Brake unit type code
200 - 240 V AC 380 - 480 V AC	32	2000	4500 12000	ACS-BRK-C
200 - 240 V AC 380 - 480 V AC	10.5	7000	14000 42000	ACS-BRK-D



#### Dimensions

Width (W) mm	Height (H) mm	Depth (D) mm	Weight kg	Brake unit type code
150	500	347	7.5	ACS-BRK-C
270	600	450	20.5	ACS-BRK-D

## Electromagnetic compatibility

### EMC according to EN61800-3

1<sup>st</sup> environment restricted distribution for frame sizes R3, R4 with 75 m motor cables and for frame sizes R1, R2, R5, R6 with 100 m motor cables as standard.

2<sup>nd</sup> environment unrestricted distribution for frame sizes R1 to R4 with 300 m motor cables and for frame sizes R5 to R8 with 100 m motor cables as standard.

These cable lengths are for EMC purposes only. Operational cable lengths are available in the output choke selection table on page 9. For longer motor cable lengths, external EMC filters are available on request.

### EMC standards in general

EN 61800-3/A11 (2000), product standard	EN 61800-3 (2004), product standard	EN 55011, product family standard for industrial, scientific and medical (ISM) equipment
1 <sup>st</sup> environment, unrestricted distribution	Category C1	Group 1 Class B
1 <sup>st</sup> environment, restricted distribution	Category C2	Group 1 Class A
2 <sup>nd</sup> environment, unrestricted distribution	Category C3	Group 2 Class A
2 <sup>nd</sup> environment, restricted distribution	Category C4	Not applicable



# Technical data

## Cooling

ACS550 is fitted with cooling air fans. The cooling air must be free from corrosive materials and not above

the maximum ambient temperature of 40°C (50°C with derating). For more specific environmental limits see page 12.

### Cooling air flow 380 - 480 V units

Type code	Frame size	Heat dissipation		Air flow	
		W	BTU/Hr	m³/h	ft³/min
ACS550-01-03A3-4	R1	40	137	44	26
ACS550-01-04A1-4	R1	52	178	44	26
ACS550-01-05A4-4	R1	73	249	44	26
ACS550-01-06A9-4	R1	97	331	44	26
ACS550-01-08A8-4	R1	127	434	44	26
ACS550-01-012A-4	R1	172	587	44	26
ACS550-01-015A-4	R2	232	792	88	52
ACS550-01-023A-4	R2	337	1151	88	52
ACS550-01-031A-4	R3	457	1561	134	79
ACS550-01-038A-4	R3	562	1919	134	79
ACS550-01-044A-4	R4	667	2278	280	165
ACS550-01-059A-4	R4	907	3098	280	165
ACS550-01-072A-4	R4	1120	3825	280	165
ACS550-01-096A-4	R5	1440	4918	168	99
ACS550-01-124A-4	R6	1940	6625	405	238
ACS550-01-157A-4	R6	2310	7889	405	238
ACS550-01-180A-4	R6	2810	9597	405	238
ACS550-01-195A-4	R6	3050	10416	405	238
ACS550-02-245A-4	R7	3850	13148	540	318
ACS550-02-289A-4	R7	4550	15539	540	318
ACS550-02-368A-4	R8	6850	23394	1220	718
ACS550-02-486A-4	R8	7850	26809	1220	718
ACS550-02-526A-4	R8	7600	25955	1220	718
ACS550-02-602A-4	R8	8100	27663	1220	718
ACS550-02-645A-4	R8	9100	31078	1220	718

### Cooling air flow 208 - 240 V units

Type code	Frame size	Heat dissipation		Air flow	
		W	BTU/Hr	m³/h	ft³/min
ACS550-01-04A6-2	R1	55	189	44	26
ACS550-01-06A6-2	R1	73	249	44	26
ACS550-01-07A5-2	R1	81	276	44	26
ACS550-01-012A-2	R1	118	404	44	26
ACS550-01-017A-2	R1	161	551	44	26
ACS550-01-024A-2	R2	227	776	88	52
ACS550-01-031A-2	R2	285	973	88	52
ACS550-01-046A-2	R3	420	1434	134	79
ACS550-01-059A-2	R3	536	1829	134	79
ACS550-01-075A-2	R4	671	2290	280	165
ACS550-01-088A-2	R4	786	2685	280	165
ACS550-01-114A-2	R4	1014	3463	280	165
ACS550-01-143A-2	R6	1268	4331	405	238
ACS550-01-178A-2	R6	1575	5379	405	238
ACS550-01-221A-2	R6	1952	6666	405	238
ACS550-01-248A-2	R6	2189	7474	405	238

## Fuse connections

Standard fuses can be used with ABB standard drives. For input fuse connections see tables below.

### Recommended input protection fuses for 208 - 240 V units

Type code	Frame size	IEC fuses		UL fuses	
		A	Fuse type <sup>1)</sup>	A	Fuse type
ACS550-01-04A6-2	R1	10	gG	10	UL Class T
ACS550-01-06A6-2	R1	10	gG	10	UL Class T
ACS550-01-07A5-2	R1	10	gG	10	UL Class T
ACS550-01-012A-2	R1	16	gG	15	UL Class T
ACS550-01-017A-2	R1	25	gG	25	UL Class T
ACS550-01-024A-2	R2	25	gG	30	UL Class T
ACS550-01-031A-2	R2	40	gG	40	UL Class T
ACS550-01-046A-2	R3	63	gG	60	UL Class T
ACS550-01-059A-2	R3	63	gG	80	UL Class T
ACS550-01-075A-2	R4	80	gG	100	UL Class T
ACS550-01-088A-2	R4	100	gG	110	UL Class T
ACS550-01-114A-2	R4	125	gG	150	UL Class T
ACS550-01-143A-2	R6	200	gG	200	UL Class T
ACS550-01-178A-2	R6	250	gG	250	UL Class T
ACS550-01-221A-2	R6	315	gG	300	UL Class T
ACS550-01-248A-2	R6	315	gG	350	UL Class T

<sup>1)</sup> According to IEC-60269 standard

## Free space requirements

Enclosure type	Space above mm	Space below mm	Space on left/right mm
Wall mounted	200	200	0
Free standing	200	0	0

### Recommended input protection fuses for 380 - 480 V units

Type code	Frame size	IEC fuses		UL fuses	
		A	Fuse type <sup>1)</sup>	A	Fuse type
ACS550-01-03A3-4	R1	10	gG	10	UL Class T
ACS550-01-04A1-4	R1	10	gG	10	UL Class T
ACS550-01-05A4-4	R1	10	gG	10	UL Class T
ACS550-01-06A9-4	R1	10	gG	10	UL Class T
ACS550-01-08A8-4	R1	10	gG	15	UL Class T
ACS550-01-012A-4	R1	16	gG	15	UL Class T
ACS550-01-015A-4	R2	16	gG	20	UL Class T
ACS550-01-023A-4	R2	25	gG	30	UL Class T
ACS550-01-031A-4	R3	35	gG	40	UL Class T
ACS550-01-038A-4	R3	50	gG	50	UL Class T
ACS550-01-044A-4	R4	50	gG	60	UL Class T
ACS550-01-059A-4	R4	63	gG	80	UL Class T
ACS550-01-072A-4	R4	80	gG	90	UL Class T
ACS550-01-096A-4	R5	125	gG	125	UL Class T
ACS550-01-124A-4	R6	160	gG	175	UL Class T
ACS550-01-157A-4	R6	200	gG	200	UL Class T
ACS550-01-180A-4	R6	250	gG	250	UL Class T
ACS550-01-195A-4	R6	250	gG	250	UL Class T
ACS550-02-245A-4	R7	250	gG	250	UL Class T
ACS550-02-289A-4	R7	315	gG	315	UL Class T
ACS550-02-368A-4	R8	400	gG	400	UL Class T
ACS550-02-486A-4	R8	500	gG	500	UL Class T
ACS550-02-526A-4	R8	630	gG	630	UL Class T
ACS550-02-602A-4	R8	630	gG	630	UL Class T
ACS550-02-645A-4	R8	800	gG	800	UL Class T



# Technical specification

ACS550 - 01 - 03A3 - 4 + B055

## Mains connection

<b>Voltage and power range</b>	3-phase, 380 to 480 V, +10/-15%, 0.75 to 355 kW 3-phase, 208 to 240 V, +10/-15%, 0.75 to 75 kW Auto-identification of input line
<b>Frequency</b>	48 to 63 Hz
<b>Power factor</b>	0.98

## Motor connection

<b>Voltage</b>	3-phase, from 0 to $U_{\text{SUPPLY}}$
<b>Frequency</b>	0 to 500 Hz
<b>Continuous loading capability</b> (constant torque at a max ambient temperature of 40°C)	Rated output current $I_2$
<b>Overload capacity</b> (at a max. ambient temperature of 40°C)	At normal use $1.1 \times I_{2N}$ for 1 minute every 10 minutes At heavy-duty use $1.5 \times I_{2hd}$ for 1 minute every 10 minutes Always $1.8 \times I_{2hd}$ for 2 seconds every 60 seconds
<b>Switching frequency</b>	Default 4 kHz
Standard	0.75 to 110 kW 1 kHz, 4 kHz, 8 kHz, 12 kHz
Selectable	up to 355 kW 1 kHz, 4 kHz
<b>Acceleration time</b>	0.1 to 1800 s
<b>Deceleration time</b>	0.1 to 1800 s
<b>Speed control</b>	
Static accuracy	20% of motor nominal slip
Dynamic accuracy	< 1% s with 100% torque step
<b>Torque control</b>	
Torque step rise time	< 10 ms with nominal torque
Non-linearity	± 5% with nominal torque

## Environmental limits

<b>Ambient temperature</b>	-15 to 40°C 40 to 50°C
<b>Altitude</b>	No frost allowed $f_{\text{switch}}$ 4 kHz, derating please contact supplier
<b>Output current</b>	Rated current available at 0 to 1000 m reduced by 1% per 100 m over 1000 to 2000 m
<b>Relative humidity</b>	lower than 95% (without condensation)
<b>Protection class</b>	IP21 or IP54
<b>Enclosure colour</b>	NCS 1502-Y, RAL 9002, PMS 420 C
<b>Contamination levels</b>	IEC 721-3-3
Transportation	No conductive dust allowed Class 1C2 (chemical gases), Class 1S2 (solid particles)
Storage	Class 2C2 (chemical gases), Class 2S2 (solid particles)
Operation	Class 3C2 (chemical gases), Class 3S2 (solid particles)

## Programmable control connections

<b>Two analog inputs</b>	
Voltage signal	0 (2) to 10 V, $R_{in} > 312 \text{ k}\Omega$ single-ended
Current signal	0 (4) to 20 mA, $R_{in} = 100 \Omega$ single-ended
Potentiometer reference value	10 V ±2% max. 10 mA, $R < 10 \text{ k}\Omega$
Maximum delay	12 to 32 ms
Resolution	0.1%
Accuracy	±1%
<b>Two analog outputs</b>	0 (4) to 20 mA, load < 500 $\Omega$
<b>Auxiliary voltage</b>	24 V DC ±10%, max. 250 mA
<b>Six digital inputs</b>	12 to 24 V DC with internal or external supply, PNP and NPN
Input impedance	2.4 k $\Omega$
Maximum delay	5 ms ± 1 ms
<b>Three relay outputs</b>	
Maximum switching voltage	250 V AC/30 V DC
Maximum switching current	6 A/30 V DC; 1500 V A/230 V AC
Maximum continuous current	2 A rms
<b>Serial communication</b>	
RS 485	Modbus protocol

## Protection limits

<b>Overvoltage trip limits</b>	
Running V DC	842 (corr. to 595 V input)
Start inhibit V DC	661 (corr. to 380 - 415 V input), 765 (corr. to 440 - 480 V input)
<b>Undervoltage trip limits</b>	
Running V DC	333 (corr. to 247 V input)
Start inhibit V DC	436 (corr. to 380 - 415 V input), 505 (corr. to 440 - 480 V input)

## Product compliance

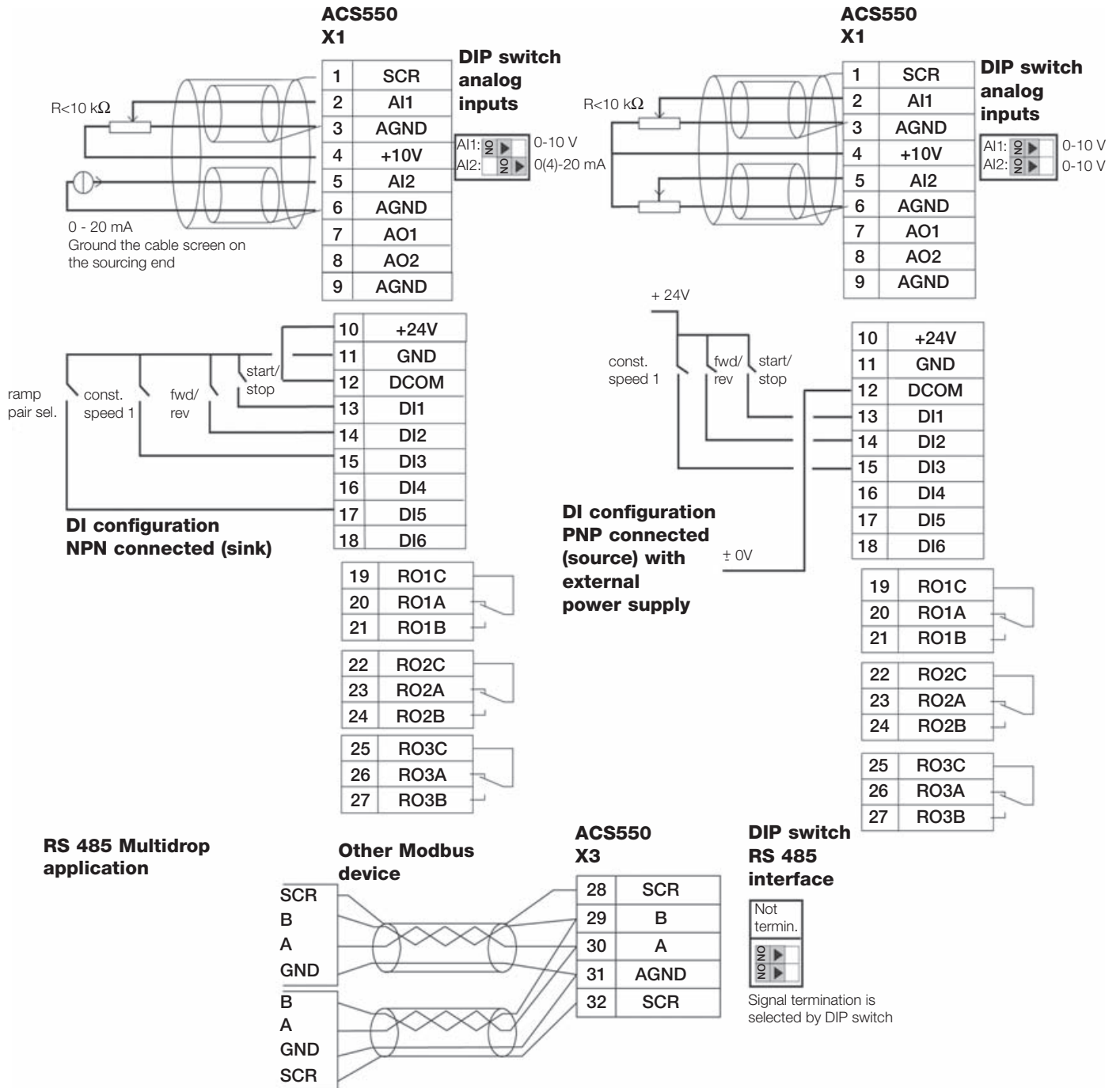
Low Voltage Directive 73/23/EEC with supplements
Machinery Directive 98/37/EC
EMC Directive 89/336/EEC with supplements
Quality assurance system ISO 9001 and Environmental system ISO 14001
UL, cUL, CE, C-Tick and GOST R approvals

# Control connections



ACS550 - 01 - 03A3 - 4 + B055

These connections are shown as examples only.  
Please refer to the ACS550 User's Manual, chapter *Installations*, for more detailed information.





# Services

## All the support you need

The ABB drive product lifecycle management model provides proactive service offerings for maximizing drive availability and performance. This four-phase model provides not only optimum support to you but also a smooth transition to a new drive when the service life of your current drive ends. It also provides ABB with a well-structured means of managing different drive generations. With complete lifecycle support, you will always be aware of the support plans for your valuable assets.

## Globally local

ABB has the largest drive service team of all drive suppliers with field service engineers located throughout the world. In addition, the ABB drives channel partners - the technical partner network with outlets in many countries – provide you with round-the-clock support and service. All ABB's and its channel partners' drive specialists have been trained, audited and certified to exacting standards allowing each to provide fast and professional support where and when you need it.

## Start-up services

Using ABB's start-up services you can trust that your drives are correctly commissioned and well-tuned to their application. ABB employs authorized professionals who have been thoroughly trained for their job.

## Training services

ABB offers dedicated training on ACS550 drives for your service and operating personnel for acquiring the required skills to use ABB drives correctly and safely and to run the application in the most effective way.

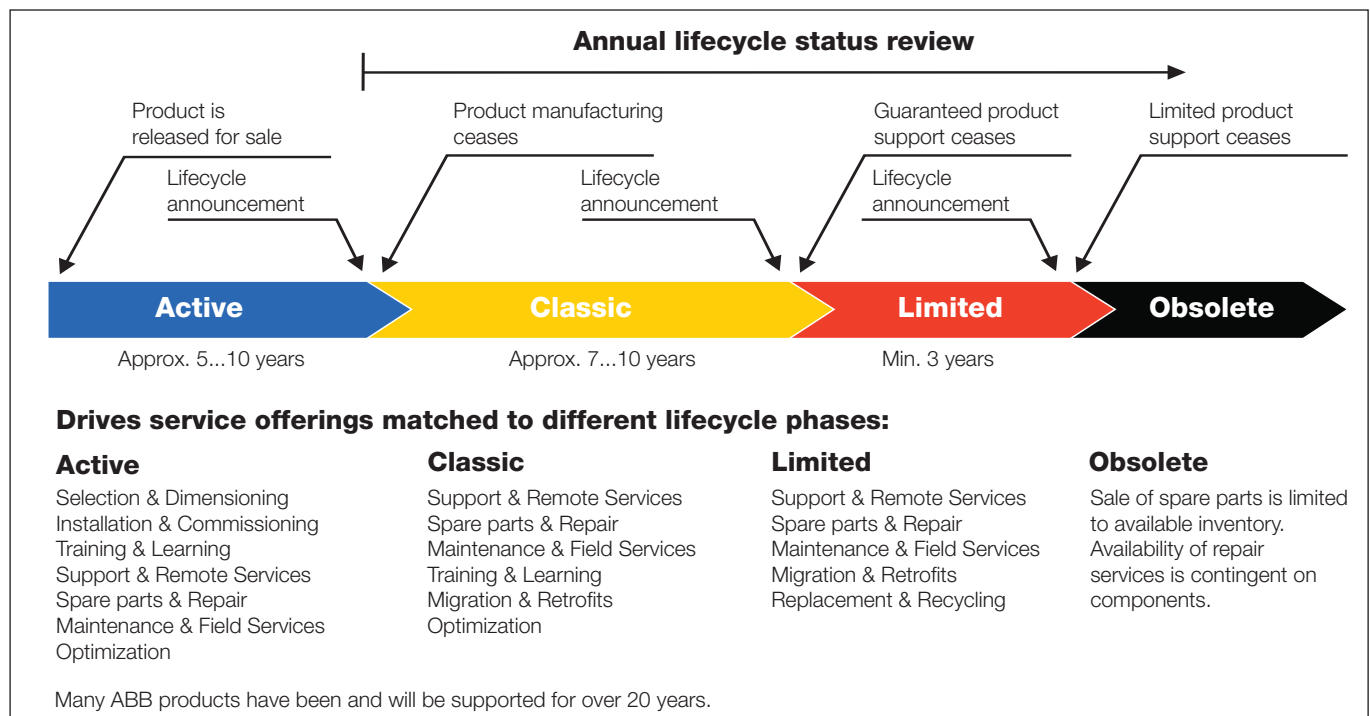
Service product code	Service type	Description
G165E	ACS550 fundamentals	Training services
G165	ACS550 startup & maintenance 1D	Training services

More details and specific information about our support, service and training offerings is available in product specific brochures, from local ABB representatives and on the ABB internet pages [www.abb.com/motors&drives](http://www.abb.com/motors&drives) and [www.abb.com/abbuniversity](http://www.abb.com/abbuniversity).

## Maintenance services

ABB maintenance services ensure optimal operation of your drives and extends their useful life.

## Lifecycle phases and related services





# Contact and web information

[www.abb.com/motors&drives](http://www.abb.com/motors&drives)



ABB's worldwide presence is built on strong local companies working together with the local distributor and channel partner network across borders to achieve a uniform level of services for all our customers. By combining the experience and know-how gained in local and global markets, we ensure that our customers

in all industries can gain the full benefit from our products.

For further details about all our variable speed drive products and services please contact your nearest ABB office or visit the ABB website [www.abb.com/motors&drives](http://www.abb.com/motors&drives).

## Albania

Tel: +355 4 234 368, 363 854  
Fax: +355 4 363 854

## Algeria

Tel: +212 2224 6168  
Fax: +212 2224 6171

## Argentina (Valentin Alsina)

Tel: +54 (0)114 229 5707  
Fax: +54 (0)114 229 5593

## Australia (Victoria)

Tel: +1800 222 435  
Tel: +61 3 8544 0000  
Fax: +61 3 8544 0004

## Austria (Vienna)

Tel: +43 1 60109 0  
Fax: +43 1 60109 8312

## Azerbaijan

Tel: +994 12 498 54 75  
Fax: +994 12 493 73 56

## Bahrain

Tel: +973 725 377  
Fax: +973 725 332

## Bangladesh (Dhaka)

Tel: +88 02 8856468  
Fax: +88 02 8850906

## Belarus (Minsk)

Tel: +375 228 12 40, 228 12 42  
Fax: +375 228 12 43

## Belgium (Zaventem)

Tel: +32 2 718 6313  
Fax: +32 2 718 6664

## Bolivia (La Paz)

Tel: +591 2 278 8181  
Fax: +591 2 278 8184

## Bosnia Herzegovina (Tuzla)

Tel: +387 35 246 020  
Fax: +387 35 255 098

## Brazil (Sao Paulo)

Tel: 0800 014 9111  
Tel: +55 11 3688 9282  
Fax: +55 11 3688 9421

## Bulgaria (Sofia)

Tel: +359 2 981 4533  
Fax: +359 2 980 0846

## Cameroon

Tel: +237 42 23 66  
Fax: +237 42 23 90

## Canada (Montreal)

Tel: +1 514 215 3006  
Fax: +1 514 332 0609

## Chile (Santiago)

Tel: +56 2 471 4391  
Fax: +56 2 471 4399

## China (Beijing)

Tel: +86 10 5821 7788  
Fax: +86 10 5821 7518, 5821 7618

## Colombia (Bogotá)

Tel: +57 1 417 8000  
Fax: +57 1 413 4086

## Costa Rica

Tel: +506 288 5484  
Fax: +506 288 5482

## Croatia (Zagreb)

Tel: +385 1 600 8550  
Fax: +385 1 619 5111

## Czech Republic (Prague)

Tel: +420 234 322 327  
Fax: +420 234 322 310

## Denmark (Skovlunde)

Tel: +45 44 504 345  
Fax: +45 44 504 365

## Dominican Republic

Tel: +809 561 9010  
Fax: +809 562 9011

## Ecuador

Tel: +593 2 2500 645  
Fax: +593 2 2500 650

## Egypt

Tel: +202 6251630  
Fax: +202 6251638

## Estonia (Tallinn)

Tel: +372 6801 800  
Fax: +372 6801 810

## Ethiopia

Tel: +251 1 669506, 669507  
Fax: +251 1 669511

## Finland (Helsinki)

Tel: +358 10 22 11  
Tel: +358 10 222 1999  
Fax: +358 10 222 2913

## France (Montluel)

Tel: +33 (0)4 37 40 40 00  
Fax: +33 (0)4 37 40 40 72

## Germany (Ladenburg)

Tel: +01805 123 580  
Tel: +49 (0)6203 717 717  
Fax: +49 (0)6203 717 600

## Greece (Athens)

Tel: +30 210 289 1 651  
Fax: +30 210 289 1 792

## Guatemala

Tel: +502 3633814  
Fax: +502 363 3624

## Hungary (Budapest)

Tel: +36 1 443 2224  
Fax: +36 1 443 2144

## India (Bangalore)

Tel: +91 80 837 0416  
Fax: +91 80 839 9173

## Indonesia (Jakarta)

Tel: +62 21 590 9955  
Fax: +62 21 590 0115, 590 0116

## Iran (Tehran)

Tel: +98 21 2222 5120  
Fax: +98 21 2222 5157

## Ireland (Dublin)

Tel: +353 1 405 7300  
Fax: +353 1 405 7312

## Israel (Haifa)

Tel: +972 4 850 2111  
Fax: +972 4 850 2112

## Italy (Milan)

Tel: +39 02 2414 3085  
Fax: +39 02 2414 3979

## Ivory Coast

Tel: +225 21 35 42 65  
Fax: +225 21 35 04 14

## Japan (Tokyo)

Tel: +81(0)3 5784 6010  
Fax: +81(0)3 5784 6275

## Jordan

Tel: +962 6 562 0181  
Fax: +962 6 5621369

## Kazakhstan

Tel: +7 3272 583838  
Fax: +7 3272 583839

## Kenya (Nairobi)

Tel: +254 20 828811/13 to 20  
Fax: +254 20 828812/21

## Kuwait

Tel: +965 2428626 ext. 124  
Fax: +965 2403139

## Latvia (Riga)

Tel: +371 7 063 600  
Fax: +371 7 063 601

## Lithuania (Vilnius)

Tel: +370 5 273 8300  
Fax: +370 5 273 8333

## Luxembourg (Leudelange)

Tel: +352 493 116  
Fax: +352 493 859

## Macedonia (Skopje)

Tel: +389 2 118 010  
Fax: +389 2 118 774

## Malaysia (Kuala Lumpur)

Tel: +603 5628 4888  
Fax: +603 5635 8200

## Mauritius

Tel: +230 208 7644, 211 8624  
Fax: +230 211 4077

## Mexico (Mexico City)

Tel: +52 (55) 5328 1400 ext. 3008  
Fax: +52 (55) 5328 7467

## Morocco

Tel: +212 2224 6168  
Fax: +212 2224 6171

## The Netherlands (Rotterdam)

Tel: +31 (0)10 407 8886  
Fax: +31 (0)10 407 8433

## New Zealand (Auckland)

Tel: +64 9 356 2170  
Fax: +64 9 357 0019

## Nigeria

Tel: +234 1 4937 347  
Fax: +234 1 4937 329

## Norway (Oslo)

Tel: +47 03500  
Fax: +47 22 872 541  
drives@no.abb.com

## Oman

Tel: +968 2456 7410  
Fax: +968 2456 7406

## Pakistan (Lahore)

Tel: +92 42 6315 882-85  
Fax: +92 42 6368 565

## Panama

Tel: +507 209 5400, 2095408  
Fax: +507 209 5401

## Peru (Lima)

Tel: +51 1 561 0404  
Fax: +51 1 561 3040

## The Philippines (Metro Manila)

Tel: +63 2 821 7777  
Fax: +63 2 823 0309, 824 4637

## Poland (Lodz)

Tel: +48 42 299 3000  
Fax: +48 42 299 3340

## Portugal (Oeiras)

Tel: +351 21 425 6000  
Fax: +351 21 425 6390, 425 6354

## Qatar

Tel: +974 444 1789  
Fax: +974 444 6189

## Romania (Bucharest)

Tel: +40 21 310 4377  
Fax: +40 21 310 4383

## Russia (Moscow)

Tel: +7 095 960 22 00  
Fax: +7 095 913 96 96/95

## Saudi-Arabia (Al Khobar)

Tel: +966 (0)3 882 9394,  
ext. 240, 254, 247  
Fax: +966 (0)3 882 4603

## Senegal

Tel: +221 832 1242, 832 3466  
Fax: +221 832 2057, 832 1239

## Serbia and Montenegro (Belgrade)

Tel: +381 11 3094 320, 3094 300  
Fax: +381 11 3094 343

## Singapore

Tel: +65 6776 5711  
Fax: +65 6778 0222

## Slovakia (Banska Bystrica)

Tel: +421 48 410 2324  
Fax: +421 48 410 2325

## Slovenia (Ljubljana)

Tel: +386 1 2445 440  
Fax: +386 1 2445 490

## South Africa (Johannesburg)

Tel: +27 11 617 2000  
Fax: +27 11 908 2061

## South Korea (Seoul)

Tel: +82 2 528 2794  
Fax: +82 2 528 2338

## Spain (Barcelona)

Tel: +34 (9)3 728 8700  
Fax: +34 (9)3 728 8743

## Sri Lanka (Colombo)

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Fax: +94 11 2399303

## Sweden (Västerås)

Tel: +46 (0)21 32 90 00  
Fax: +46 (0)21 14 86 71

## Switzerland (Zürich)

Tel: +41 (0)58 586 0000  
Fax: +41 (0)58 586 0603

## Syrian Arab Republic

Tel: +9626 5620181 ext. 502  
Fax: +9626 5621369

## Taiwan (Taipei)

Tel: +886 2 2577 6090  
Fax: +886 2 2577 9467, 2577 9434

## Tanzania

Tel: +255 51 2136750, 2136751,  
2136752  
Fax: +255 51 2136749

## Thailand (Bangkok)

Tel: +66 (0)2665 1000  
Fax: +66 (0)2665 1042

## Tunis

Tel: 00216 71 860 366  
Fax: 00 216 71 860 255

## Turkey (Istanbul)

Tel: +90 216 528 2200  
Fax: +90 216 365 2944

## Uganda

Tel: +256 41 348 800  
Fax: +256 41 348 799

## Ukraine (Kiev)

Tel: +380 44 495 22 11  
Fax: +380 44 495 22 10

## The United Arab Emirates (Dubai)

Tel: +971 4 3147500, 3401777  
Fax: +971 4 3401771, 3401539

## United Kingdom (Manchester, Didsbury)

Tel: +44 1925 741 111  
Fax: +44 1925 741 693

## Uruguay (Montevideo)

Tel: +598 2 707 7300  
Fax: +598 2 707 7466

## USA (New Berlin)

Tel: +1 800 752 0696  
Tel: +1 262 785 3200  
Fax: +1 262 785 0397

## Venezuela (Caracas)

Tel: +58 212 2031949  
Fax: +58 212 237 6270

## Vietnam (Hochiminh)

Tel: +84 8 8237 972  
Fax: +84 8 8237 970

## Zimbabwe

Tel: +263 4 369 070  
Fax: +263 4 369 084





**ABB Oy**

Drives

P. O. Box 184

FI - 00381 Helsinki

Finland

Telephone +358 10 22 11

Fax +358 10 22 23764

Internet <http://www.abb.com/motors&drives>