

Easy Drive

With **EasyDrive** configuration software you can program and use **AVy** series inverters via your PC.

Its intuitive programming methodology enables you not only to have complete management of the inverter, but also to have natural and immediate confidence in using it, at whatever level of use, thereby guaranteeing the development of rapid procedures for commissioning, optimisation and diagnostics on the system.

**EasyDrive** runs in a standard Windows environment, providing dialog boxes and toolbars, both for programming the inverter and managing and saving the actual configuration files.

This configuration software can be installed on any PC running Windows 95 or later. EasyDrive is included on the CD inside your drive pack.

The following operations can be performed using this configuration software:

- RS485 serial communication using Modbus RTU or Jbus protocol
- setting parameters via main menus based on a tree structure
- read and write operations involving all parameters/commands
- offline user file configuration
- online programming in a graphical environment
- parameter download and upload procedure
- user file archiving
- guided programming procedure for commissioning using a Wizard function
- graphic display of variables via a "Trend recorder" oscilloscope function
- multi-drop network management with up to 32 inverters

**PlayGround Area** (this function is only available for the AVy...-4A and AVy...-5 ranges)

Using the EasyDrive configuration software you can access the advanced programming area known as the **PlayGround Area**.

In this mode, a library of over 100 developed or pre-defined function blocks, allow you to implement complex control solutions by combining logical/mathematical, comparison or custom functions, thereby creating the right application setup to suit your system's requirements.

## EasyDrive

Il software di configurazione **EasyDrive** consente di programmare ed utilizzare gli inverter della serie **AVy** tramite PC.

Le intuitive modalità di programmazione, oltre a consentire una totale gestione dell'inverter, permettono a qualsiasi livello di utenza una facile ed immediata confidenza di impiego, garantendo rapide procedure di messa in servizio, ottimizzazione e diagnostica.

**EasyDrive** lavora in tipico ambiente Windows, proponendo quindi finestre di dialogo e barre degli strumenti, sia per la programmazione dell'inverter che per la gestione ed il salvataggio degli stessi files di configurazione.

Il configuratore è installabile su PC con sistema operativo Windows 95 e successivi. EasyDrives è incluso nel cd-rom presente all'interno della confezione del drive.

Mediante il configuratore, saranno quindi possibili le seguenti operazioni:

- comunicazione seriale RS485 mediante protocollo Modbus RTU o Jbus
- impostazione dei parametri mediante struttura ad albero dei menu principali
- lettura e scrittura di tutti i parametri / comandi
- configurazione file utente off-line
- programmazione on-line in ambiente grafico
- procedura di download e upload parametri
- archiviazione dei file utente
- procedura di programmazione guidata per la messa in servizio mediante funzione "Wizard"
- visualizzazione grafica delle variabili attraverso funzione di oscilloscopio "Trend recorder"
- gestione in rete multidrop fino a 32 inverter

**PlayGround Area** (Funzione disponibile solo per linea AVy...-4A e AVy...-5)


Tramite il configuratore EasyDrive, è possibile accedere all'area di programmazione evoluta denominata **PlayGround Area**.

Tale modalità, grazie ad una libreria con oltre 100 blocchi funzione composti o predefiniti, consente di realizzare soluzioni di controllo complesse mediante la combinazione di funzioni logico/matematiche, di comparazione o funzioni custom, creando a seconda delle esigenze del sistema il proprio Setup applicativo.



Example of keypad display for the entire AVy range  
 Esempio visualizzazione tastierino, per tutta linea AVy  
 Exemple de visualisation du clavier de paramétrage, pour toute la ligne AVy.  
 Beispiel Bedieneinheit-Anzeige, für die gesamte AVy-Serie.  
 Ejemplo de visualización del teclado, para toda la línea AVy.

## Programming Menu

 The AVy inverter's programming structure allows you to configure the system and set the motor parameters simply and logically.

The inverter's parameters are divided up according to function type, guaranteeing an intuitive way of interpreting any operations which involve changing, managing and accessing the functions.

The main parameter groups are classified as follows:

- setting basic parameters
- parameter monitor and operating variables
- motor / inverter configuration and setting system thresholds
- input / output configuration
- control function and parameter configuration
- dedicated function configuration

## Menu di Programmazione

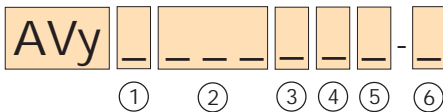
# Identification Code






Codice di Identificazione

Code d'Identification

Identifikationscode

Siglas Identificación Producto



					
<b>AVy</b>	<b>ARTDrive</b> AC Inverter, 3 phase input voltage	<b>ARTDrive</b> Inverter CA, alimentazione trifase	<b>ARTDrive</b> Variateur CA, alimentation triphasée	<b>ARTDrive</b> Drehstrom-Frequenzumrichter dreiphasige	<b>ARTDrive</b> Inverter CA, alimentación trifásica
①	Enclosure dimension identification	Identificazione della dimensione	Taille du boîtier	Versorgung Baugröße	Identificación de las dimensiones
②	Inverter rated output power <b>AVy:</b> I.e.: 055 = 5.5kW <b>AVy...-5:</b> I.e.: 005 = 5Hp	Potenza nominale in uscita <b>AVy:</b> Es.: 055 = 5.5kW <b>AVy...-5:</b> Es.: 005 = 5Hp	Puissance nominale de sortie <b>AVy:</b> Es: 055 = 5.5kW <b>AVy...-5:</b> Es.: 005 = 5Hp	Ausgangsnennleistung <b>AVy:</b> z.B.: 055 = 5.5kW <b>AVy...-5:</b> z.B.: 005 = 5Hp	Potencia nominal de salida <b>AVy:</b> Es.: 055 = 5.5kW <b>AVy...-5:</b> Es.: 005 = 5Hp
③	<b>X</b> = KCS leds module <b>K</b> = Programming keypad KBS	<b>X</b> = Modulo a led KCS <b>K</b> = Tastierino di programmazione KBS	<b>X</b> = Module à diodes (LED) KCS <b>K</b> = Clavier de programmation KBS	<b>X</b> = KCS LED-Modul <b>K</b> = Programmierungs-Bedieneinheit KBS	<b>X</b> = modulo de leds KCS <b>K</b> = Teclado de programación KBS
④	<b>X</b> = without integrated braking circuit <b>B</b> = with integrated braking circuit	<b>X</b> = senza unità di frenatura interna <b>B</b> = con unità di frenatura interna	<b>X</b> = sans unité de freinage interne <b>B</b> = avec unité de freinage interne	<b>X</b> = ohne Bremskreis <b>B</b> = integrierter Bremskreis	<b>X</b> = suministro sin unidad de frenado integrada <b>B</b> = suministro con unidad de frenado integrada
⑤	<b>X</b> = Standard software	<b>X</b> = Software standard	<b>X</b> = Logiciel standard	<b>X</b> = Standardsoftware	<b>X</b> = Software estándar
⑥	<b>[blank]</b> = 230 ... 480V version <b>-4A</b> = 460V version <b>-5</b> = 575V version <b>-C/CP</b> = compact version	<b>[vuoto]</b> = versione 230 ... 480V <b>-4A</b> = versione 460V <b>-5</b> = versione 575V <b>-C/CP</b> = versione 400 ... 480V compatta	<b>[vide]</b> = version 230 ... 480V <b>-4A</b> = version 460V <b>-5</b> = version 575V <b>-C/CP</b> = version 400 ... 480V compacte	<b>[leer]</b> = versione 230 ... 480V <b>-4A</b> = 460 V Ausführung <b>-5</b> = 575 V Ausführung <b>-C/CP</b> = Ausführung 400 ... 480V kompakt	<b>[vacío]</b> = versión 230 ... 480V <b>-4A</b> = versión 460V <b>-5</b> = versión 575V <b>-C/CP</b> = versión 400 ... 480V compacta



**AVy and AVy...-4A range**

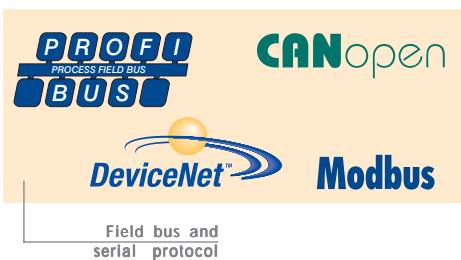
- 3-phase power supply: 230Vac -15% ... 480Vac +10%, 50/60Hz up to 160kW (200Hp)
- Motor ratings from 0,75kW (0,75Hp) to 160kW (200Hp)
- **AVy** version with default power supply setting at 400Vac, 50Hz
- **AVy...-4A** version with default power supply setting at 460Vac, 50Hz

**AVy - C (Compact) range**

- 3-phase power supply: 400Vac -15% ... 480Vac ±10%, 50/60Hz ±5%
- Motor ratings: 250kW and 315kW (350Hp and 450Hp)
- Standard version with default power supply setting at 400Vac, 50Hz

**AVy...-5 range**

- 3-phase power supply: 575Vac ±10%, 50/60Hz ±5%
- Motor ratings from 2Hp to 200Hp
- Standard version with default power supply setting at 575Vac, 60Hz



**Standards and Marks**

- CE:** complies with the EEC directive concerning low voltage equipment.
- UL, cUL:** complies with directives for the American and Canadian market.
- CSA:** complies with the directives for the Canadian market (only AGy...-5)
- EMC:** complies with the EEC directive - EN 61800-3/A11 concerning electromagnetic compatibility with the use of optional filters.



**Control modes**

- Closed Loop Flux Vector control:
  - sinusoidal encoder (speed accuracy: 0.01%)
  - digital encoder (speed accuracy: 0.02%)
- Flux Vector control without encoder feedback (sensorless) (speed accuracy: 0.1% above 100 rpm, 0.2% below 100 rpm)
- V/f scalar control (speed accuracy varies with motor slip)

**Main control and regulation functions**

- Output frequency:
  - 400 Hz for control with encoder feedback
  - 200 Hz for sensorless control
- Offline self-tuning: for speed-current-flux loops and motor data identification (possible with motor idle or rotating)
- Online self-tuning: motor parameter compensation according to variations in temperature AVy and AVy...-4A range
- Torque control: with built-in OR function for gradual switching between the speed and torque controllers
- Instantaneous overload 200% up to 160kW (200Hp)
- Overload capacity compliant with IEC 146 Class 1 and Class 2 (see the following tables for more details)
- I<sup>2</sup>t thermal protection for motor and drive
- Multi-speed function (with 7 programmable speeds)
- 5 independent, programmable ramps (linear and S-curve)
- Motor potentiometer function
- Motor "auto-capture" function
- Droop function
- Dual motor management
- PID function block
- Mains loss detection with controlled stop and/or power optimisation
- Virtual or remote I/O management

**Standard supply configuration**

- LCD programming keypad or LED diagnostics module
- Integrated inverter braking module:
  - standard for AVy and AVy...-4A range: up to 15kW (20Hp) and optionally up to 55kW (60Hp)
  - standard for AVy...-5 range: up to 20Hp and optionally up to 75Hp
- Integrated RS485 serial connection (ModBus RTU protocol)
- Standard inputs/outputs:
  - 3 programmable differential analogue inputs (voltage/current)
  - 2 programmable analogue outputs
  - 8 digital inputs:
    - AVy range: 4 non programmable + 4 programmable
    - AVy...-4A range: 8 programmable
    - AVy...-5 range: 8 programmable
  - 2 programmable digital outputs
  - 2 programmable relay outputs
- Integrated encoder input: sinusoidal 1Vpp (+5V) and digital TTL (+5V)
- Fieldbus Interfacer: ProfiBus, CANopen and DeviceNet (with optional card)
- EasyDrive, an advanced configuration software application for PC, including:
  - programming inverter function blocks in a graphical environment
  - user file archiving
  - guided programming procedure for commissioning using a Wizard function
  - graphic display of variables via a "Trend recorder" oscilloscope function
- "PlayGround Area" with over 100 programmable logical blocks for implementing complex controls using logical functions, mathematical operations or customised architectures (only for the AVy...-4A and AVy...-5 ranges)

**Accessories (optional)**

- Dedicated EMC filters (compliant with EEC Directive - EN61800-3/A11)
- Braking resistors (standardised for the whole range)
- Input and output inductors (standardised for the whole range)
- NEMA 1 protection kit
- Programming remote keypad kit

**Environmental conditions**

- Housing:** IP20 (NEMA1 optional)  
IP54: up to size 15kW (20Hp) for heat sink mounted externally on cabinet.
- Operating temperature:** from 0°C to 40°C, from + 40°C to +50°C with derating.
- Storage temperature:** -25°C...+55°C (Class 1K4 – EN50178)
- Humidity:** from 5% to 85%, relative humidity (without condensation) or ice formation (Class 3K3 under EN50178)
- Altitude:** up to 1000 metres above sea level; above this level the current must be reduced by 1.2% per 100 metre increase.

**"AVy..." and "AVy...-4A"****Drive Type - kW rating**

		1007	1015	1022	1030	2040	2055	2075	3110	3150	4220	4300	4370	5450	5550	6750	7900	71100	71320	81600	92500	93150	104000	105000	106300																																																
<b>Technical data</b>																																																																									
U <sub>N</sub> AC Input voltage	[V]	230 V -15% ... 480 V +10%, 3Ph																				400 V -15% ... 480 V +10%, 3Ph																																																			
AC Input frequency	[Hz]	50/60 Hz ±5%																																																																							
Inverter Output (IEC 146 class1), Continuous service	[kVA]	1.6	2.7	3.8	5	6.5	8.5	12	16.8	22.4	32	42	55	64	79	98	128	145	173	224	335	400	554	685	-																																																
Inverter Output (IEC 146 class2), 150% overload for 60s	[kVA]	1.4	2.4	3.4	4.5	5.9	7.7	10.9	15.3	20.3	29	38.2	50	58.3	72	89.2	116.5	132	157.5	204	305	363	504	623	776																																																
P <sub>N</sub> mot (recommended motor output):																																																																									
@ U <sub>N</sub> =230Vac; f <sub>SW</sub> =default; IEC 146 class 1	[kW]	0.37	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	18.5	22	22	30	37	55	55	75	90	-	-	-	-	-																																																
@ U <sub>N</sub> =230Vac; f <sub>SW</sub> =default; IEC 146 class 2	[kW]	0.37	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22	30	37	45	55	55	90	-	-	-	-	-																																																
@ U <sub>N</sub> =400Vac; f <sub>SW</sub> =default; IEC 146 class 1	[kW]	0.75	1.5	2.2	3	4	5.5	7.5	11	15	22	30	37	45	55	75	90	110	132	160	250	315	400	500	-																																																
@ U <sub>N</sub> =400Vac; f <sub>SW</sub> =default; IEC 146 class 2	[kW]	0.75	1.5	2.2	3	4	5.5	7.5	11	15	22	30	37	45	55	75	90	110	160	250	250	400	500	630	-																																																
@ U <sub>N</sub> =460Vac; IEC 146 class 1	[Hp]	1	2	3	3	5	7.5	10	15	20	30	40	50	60	75	100	125	150	150	200	350	450	600	700	-																																																
@ U <sub>N</sub> =460Vac; IEC 146 class 2	[Hp]	0.75	1.5	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	300	450	500	600	700																																																
U <sub>2</sub> Max output voltage	[V]	0.98 x U <sub>N</sub> (AC Input voltage)																																																																							
f <sub>2</sub> Max output frequency	[Hz]	400												200																																																											
I <sub>2N</sub> Rated output current :																																																																									
@ U <sub>N</sub> =230-400Vac; f <sub>SW</sub> = default; IEC 146 class 1	[A]	2.4	4	5.6	7.5	9.6	12.6	17.7	24.8	33	47	63	79	93	114	142	185	210	250	324	(*) 485	(*) 580	(*) 800	(*) 980	-																																																
@ U <sub>N</sub> =230-400Vac; f <sub>SW</sub> =default; IEC 146 class 2	[A]	2.2	3.6	5.1	6.8	8.7	11.5	16.1	22.5	30	43	58	72	85	104	129	169	191	227	295	(*) 441	(*) 525	(*) 728	(*) 892	(*) 1120																																																
@ U <sub>N</sub> =460Vac; f <sub>SW</sub> =default; IEC 146 class 1	[A]	2.1	3.5	4.9	6.5	8.3	11	15.4	21.6	28.7	40	54	68	81	99	124	160	183	217	282	422	566	720	853	-																																																
@ U <sub>N</sub> =460Vac; f <sub>SW</sub> =default; IEC 146 class 2	[A]	1.9	3.2	4.4	5.9	7.6	10	14	19.6	26	36	50	62	74	90	112	146	166	198	256	384	515	655	776	974																																																
f <sub>SW</sub> switching frequency (Default)	[kHz]	8												4																																																											
f <sub>SW</sub> switching frequency (Higher)	[kHz]	16												8																																																											
lowId (short term overload current, 200% of I <sub>2N</sub> for 0.5s on 60s)	[A]	4.4	7.2	10.2	13.6	17.4	23	32.2	45	60	86	116	144	170	208	258	338	382	454																																																						
Dimensions (width)																																																																									
	mm	105.5				151.5				208				309				376				509				509				776 (**)				1196 (***)																																							
	[inch]	[4.1]				[5.9]				[8.2]				[12.1]				[14.7]				[20]				[20]				[...]				[47.00]																																							
Dimensions (length)																																																																									
	mm	306.5								323								489								564								741								909								965								1075 (**)								1250 (***)							
	[inch]	[12.0]								[12.7]								[19.2]								[22.2]								[29.2]								[35.8]								[38]								[...]								[49.12]							
Dimensions (depth)																																																																									
	mm	199.5								240								268								308								308								297.5								442								450 (**)								456 (***)							
	[inch]	[7.8]								[9.5]								[10.5]								[12.1]								[12.1]								[11.7]								[17.4]								[...]								[17.92]							
Weight																																																																									
	Kg	3.5	3.6	3.7	4.95	8.6	18	22	22.2	34	59	75.4	80.2	86.5	109	155 (**)	...										(***)																																														
	[lbs]	[7.7]	[7.9]	[8.1]	[10.9]	[19]	[39.6]	[48.5]	[48.9]	[74.9]	[130]	[166.1]	[176.7]	[190.6]	[240.3]	[...]	[...]										[...]																																														

(\*) : value for 400Vac only

(\*\*) : valid for "92500-C-IP20" and "93150-CP-IP20" only

(\*\*\*) : valid for "104000-IP00", "105000-IP00" and "106300-IP00" only without input DC supply section (SM32)

**"AVy...-5"****Drive Type - Hp rating**

		2002	2003	2005	3007	3010	3015	3020	4025	4030	4040	5050	5060	5075	6100	7125	7150	8200																																							
<b>Technical data</b>																																																									
U <sub>N</sub> AC Input voltage	[V]	500 -10% / 575V +10%...-10% , 3Ph																																																							
AC Input frequency	[Hz]	50/60 Hz ±5%																																																							
Inverter Output (IEC 146 class1), Continuous service	[kVA]	3.8	4.5	7.0	10.8	13.7	18.6	24.1	30	36	46	58	69	86	109	136	157	210																																							
Inverter Output (IEC 146 class2), 150% overload for 60s	[kVA]	3.4	4.1	6.3	9.8	12.5	16.9	21.9	27	33	42	53	63	78	99	124	143	191																																							
P <sub>N</sub> mot (recommended motor output):																																																									
@ U <sub>N</sub> =575Vac; f <sub>SW</sub> =default; IEC 146 class 1	[Hp]	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200																																							
@ U <sub>N</sub> =575Vac; f <sub>SW</sub> =default; IEC 146 class 2	[Hp]	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200																																							
U <sub>2</sub> Max output voltage	[V]	0.98 x U <sub>N</sub> (AC Input voltage)																																																							
f <sub>2</sub> Max output frequency (*)	[Hz]	400																																																							
I <sub>2N</sub> Rated output current :																																																									
@ U <sub>N</sub> =575Vac; f <sub>SW</sub> = default; IEC 146 class 1	[A]	3.8	4.5	7.0	10.8	13.8	18.7	24.2	30	36	46	58	69	86	109	137	158	211																																							
@ U <sub>N</sub> =575Vac; f <sub>SW</sub> =default; IEC 146 class 2	[A]	3.4	4.1	6.4	9.8	12.6	17.0	22.0	27	33	42	53	63	78	99	125	144	192																																							
f <sub>SW</sub> switching frequency (Default)	[kHz]	8																																																							
f <sub>SW</sub> switching frequency (Higher)	[kHz]	16																																																							
lowId (short term overload current, 200% of I <sub>2N</sub> for 0.5s on 60s)	[A]	7.0	8.2	12.8	19.6	25.2	34.0	44.0	54	66	84	106	126	156	198	249	288	384																																							
Dimensions (width)																																																									
	mm	151.5				208				350				418				509																																							
	[inch]	[5.9]				[8.2]				[13.8]				[16.4]				[20]																																							
Dimensions (length)																																																									
	mm	306.5								323								569								605								921								1113								1183							
	[inch]	[12.0]								[12.7]								[22.4]								[23.8]								[36.2]								[43.8]								[46.6]							
Dimensions (depth)																																																									
	mm	199.5								240								268								320								297.5																							
	[inch]	[7.8]								[9.5]								[10.5]								[12.6]								[11.7]																							
Weight																																																									
	kg	4.6	4.8	8.2	8.8	28.6	31.6	47	83	118	131																																														
	[lbs]	[10.1]	[10.6]	[18]	[19.4]	[63.1]	[67.9]	[103.6]	[183]	[260.1]	[288.6]																																														

**Environmental Condition**

<b>Enclosures</b>	IP20 (NEMA type 1 option)
<b>Ambient temperature</b>	0 ... 40°C, +40°C...+50°C with derating
<b>Altitude</b>	up to 1000 m without current limitation

**Normative and marks**

<b>CE</b>	in compliance with CEE directives, for low voltage devices.
<b>UL, cUL, CSA</b>	in compliance with American and Canadian market directives.
<b>EMC</b>	in compliance with CEE - EN61800-3/A11 electromagnetic compatibility directive, using optional filters.

**Condiciones ambientales**

<b>Cajas</b>	IP20 (tipo NEMA 1 opcional)
<b>Temperatura ambiente</b>	0 ... 40°C, +40°C...+50°C con derating
<b>Altitud</b>	hasta 1.000 m sin límite de intensidad

**Normativa y marcas**

<b>CE</b>	de acuerdo con las directivas CEE, para dispositivos de bajo voltaje.
<b>UL y cUL</b>	de acuerdo con las directivas de mercado Norte Americanas y Canadienses.
<b>EMC</b>	de acuerdo con las directivas de compatibilidad electromagnética CEE - EN 50178/A11, utilizando filtros opcionales.



AVy1...-K..

SIEI Code	Type	Rated power @ 400V <sub>Ac</sub>	Standard settings
S9L21	AVy1007-KBX	0.75 kW	Braking unit
S9L22	AVy1015-KBX	1.5 kW	Braking unit
S9L23	AVy1022-KBX	2.2 kW	Braking unit
S9L24	AVy1030-KBX	3 kW	Braking unit
S9L25	AVy2040-KBX	4 kW	Braking unit
S9L26	AVy2055-KBX	5.5 kW	Braking unit
S9L27	AVy2075-KBX	7.5 kW	Braking unit
S9L28	AVy3110-KBX	11 kW	Braking unit
S9L29	AVy3150-KBX	15 kW	Braking unit
S9LK1	AVy4220-KBX	22 kW	Braking unit
S9L41	AVy4300-KBX	30 kW	Braking unit
S9L35	AVy4370-KBX	37 kW	Braking unit
S9L17	AVy5450-KBX	45 kW	Braking unit
S9L20	AVy5550-KBX	55 kW	Braking unit
S9L30	AVy4220-KXX	22 kW	
S9L91	AVy4300-KXX	30 kW	

(to be continued)

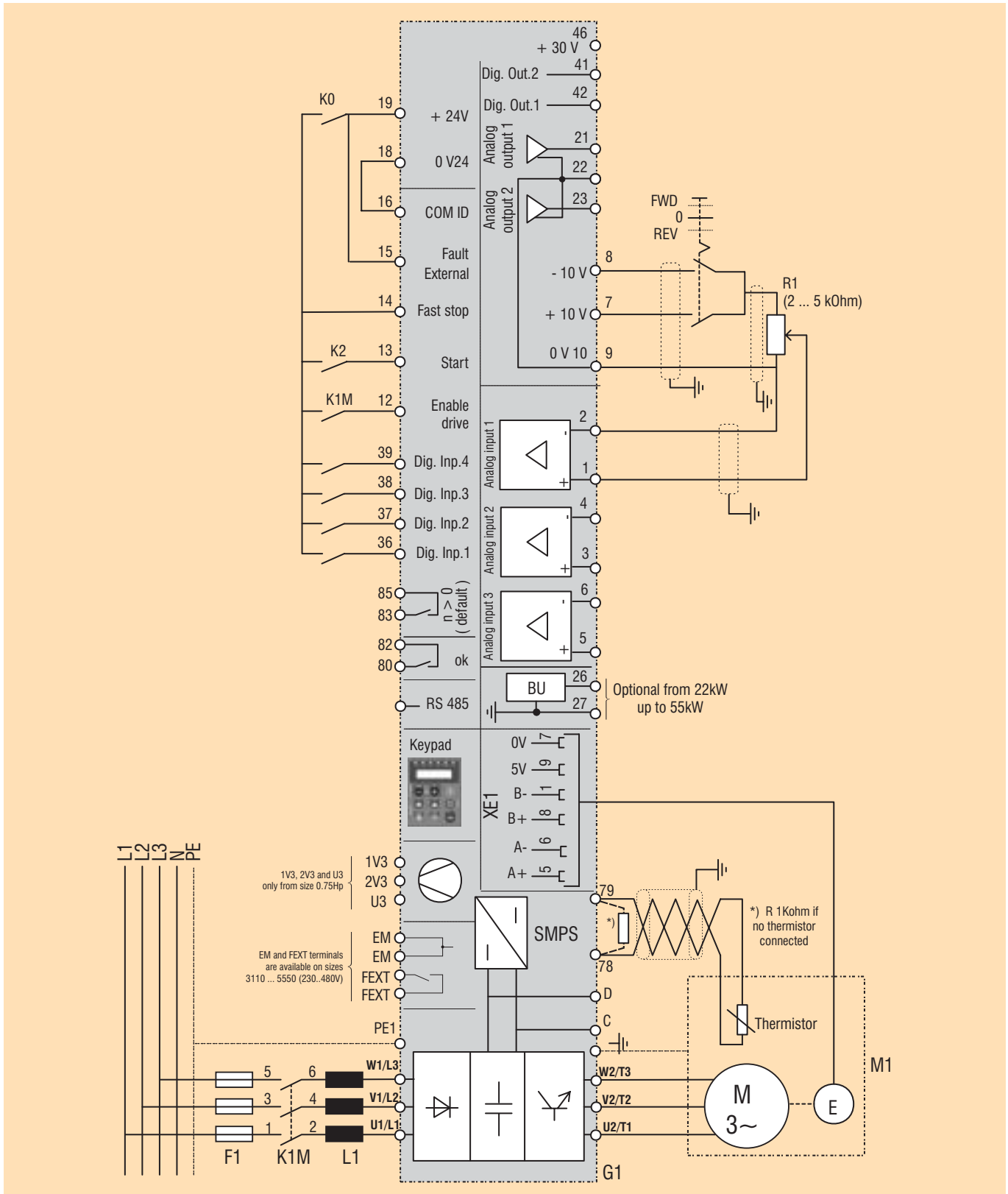
## Ordering Codes

SIEI Code	Type	Rated power @ 400V <sub>Ac</sub>	Standard settings
S9L34	AVy4370-KXX	37 kW	
S9L16	AVy5450-KXX	45 kW	
S9L19	AVy5550-KXX	55 kW	
S9L32	AVy6750-KXX	75 kW	
S9L38	AVy7900-KXX	90 kW	
S9L40	AVy71100-KXX	110 kW	
S9L43	AVy71320-KXX	132 kW	
S9LL5	AVy81600-KXX	160 kW	



AVy4...-K..-DC

SIEI Code	Type	Rated power	Standard settings
S901L	AVy4220-XXX-DC	22 kW	Power supply via the DC bus
S902L	AVy4300-XXX -DC	30 kW	Power supply via the DC bus
S903L	AVy4370-XXX-DC	37 kW	Power supply via the DC bus
S904L	AVy5450-XXX-DC	45 kW	Power supply via the DC bus
S905L	AVy5550-XXX-DC	55 kW	Power supply via the DC bus
S906L	AVy6750-XXX -DC	75 kW	Power supply via the DC bus
S907L	AVy7900-XXX -DC	90 kW	Power supply via the DC bus
S910L	AVy71100-XXX -DC	110 kW	Power supply via the DC bus
S911L	AVy71320-XXX -DC	132 kW	Power supply via the DC bus
S912L	AVy81600-XXX -DC	160 kW	Power supply via the DC bus



The connection diagram describes a typical inverter connection arrangement, set up to handle PNP logic "Terminal box commands". Refer to the instruction manual for additional detailed data.

Note: the connection diagram for the digital I/O applies to the AVy range.

Lo schema di collegamento indica una connessione tipica dell'inverter, predisposto per "Comandi da morsettiere" in logica PNP. Ulteriori informazioni dettagliate, sono disponibili nel relativo manuale d'istruzione.

Nota: lo schema di collegamento degli I/O digitali è relativo alla linea "AVy".

Le schéma de connexion indique une connexion typique du variateur, prévu pour "Commandes par bornes" en logique PNP.

Note: le schéma de raccordement des E/S digitales concerne la ligne "AVy".

Pour de plus amples informations voir la notice d'instruction correspondante.

Der Anschlussplan zeigt einen typischen Frequenzumrichteranschluss, der für "Befehle über Klemmleiste" in PNP-Logik bestimmt ist.

Hinweis: Der Anschlussplan für die Digital-I/O bezieht sich auf die Serie "AVy".

Nähere Informationen sind dem entsprechenden Handbuch zu entnehmen.

El esquema de conexión describe un convertidor de frecuencia con una conexión típica, instalada para manejar en lógica PNP "Mandos de la Caja de Terminales".

Nota: el esquema de conexiones de las E/S digitales es en relación con la línea "AVy".

Utilice el manual de instrucciones para información detallada adicional.



# Technical Specifications

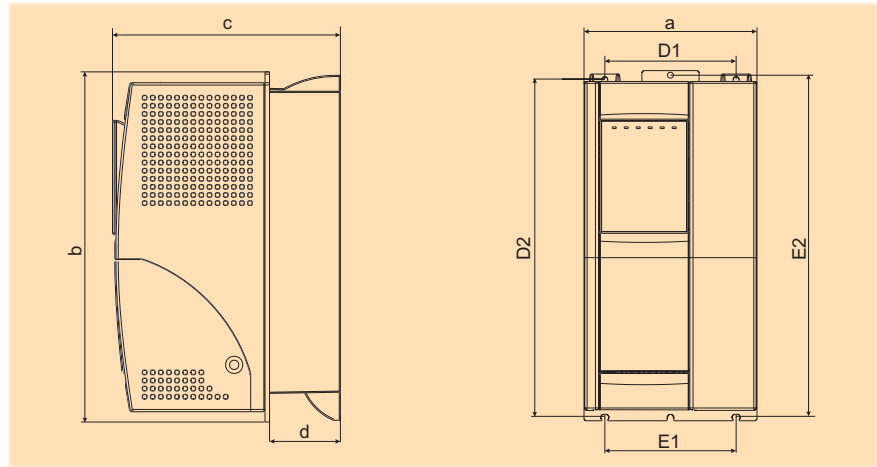
Specifiche Tecniche  
Spécifications Techniques

Technische Spezifikationen  
Especificaciones Técnicas

## Dimensions and Weights

AVy1... , AVy2... , AVy3...

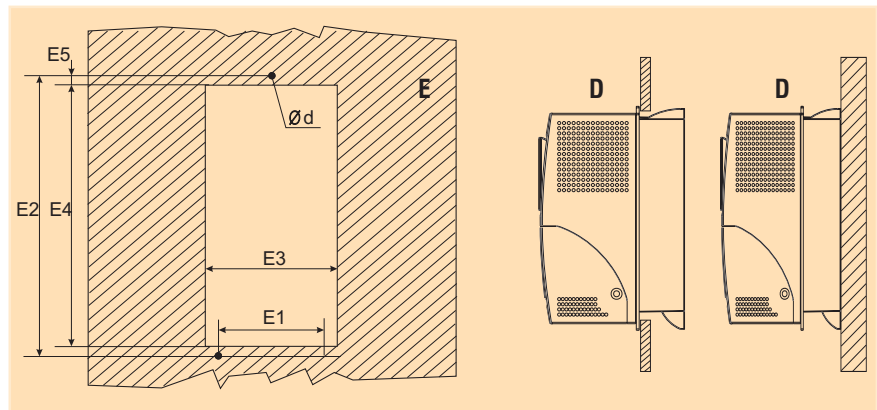
Dimensioni e Pes  
Dimensions et Poids  
Abmessungen und Gewichte  
Dimensiones y Pesos



## Mounting Method

Metodo di Montaggio  
Mode de Montage  
Montageart  
Metodos de Montaje

- (E): Assembly with external heatsink  
 Montaggio con dissipatore esterno  
 Montage avec dissipateur extérieur  
 Montage mit externem Kühlkörper  
 Montaje con disipador externo
- (D): Wall assembly  
 Montaggio a muro  
 Montage au mur  
 Wandmontage  
 Montaje a la pared



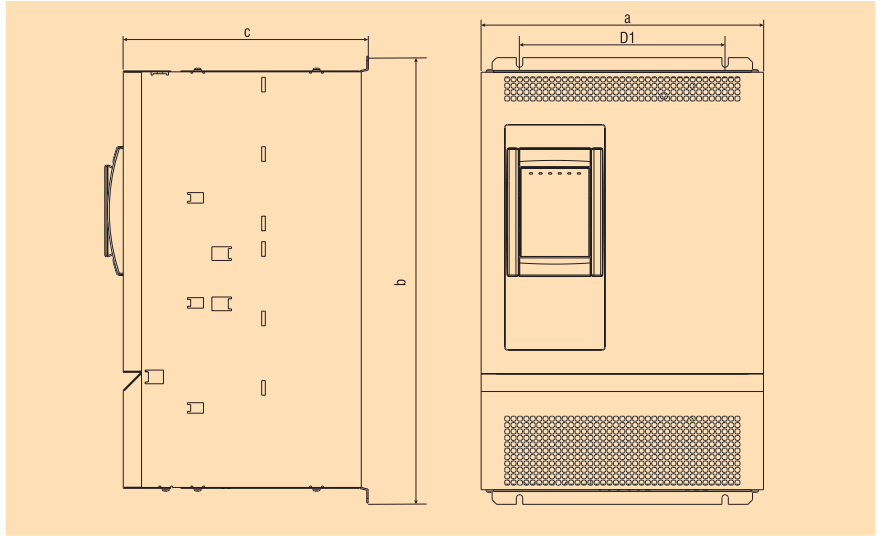
Dimensions mm [inch]	AVy & AVy...-4A									AVy...-5 (575V)						
	1007	1015	1022	1030	2040	2055	2075	3110	3150	2002	2003	2005	3007	3010	3015	3020
a	105.5 [4.1]	105.5 [4.1]	105.5 [4.1]	105.5 [4.1]	151.5 [5.9]	151.5 [5.9]	151.5 [5.9]	208 [8.2]	208 [8.2]	151.5 [5.9]	151.5 [5.9]	151.5 [5.9]	208 [8.2]	208 [8.2]	208 [8.2]	208 [8.2]
b	306.5 [12.0]	306.5 [12.0]	306.5 [12.0]	306.5 [12.0]	306.5 [12.0]	306.5 [12.0]	306.5 [12.0]	323 [12.7]	323 [12.7]	306.5 [12.0]	306.5 [12.0]	306.5 [12.0]	323 [12.7]	323 [12.7]	323 [12.7]	323 [12.7]
c	199.5 [7.8]	199.5 [7.8]	199.5 [7.8]	199.5 [7.8]	199.5 [7.8]	199.5 [7.8]	199.5 [7.8]	240 [9.5]	240 [9.5]	199.5 [7.8]	199.5 [7.8]	199.5 [7.8]	240 [9.5]	240 [9.5]	240 [9.5]	240 [9.5]
d	62 [2.4]	62 [2.4]	62 [2.4]	62 [2.4]	62 [2.4]	62 [2.4]	62 [2.4]	84 [3.3]	84 [3.3]	62 [2.4]	62 [2.4]	62 [2.4]	84 [3.3]	84 [3.3]	84 [3.3]	84 [3.3]
D1	69 [2.7]	69 [2.7]	69 [2.7]	69 [2.7]	115 [4.5]	115 [4.5]	115 [4.5]	168 [6.6]	168 [6.6]	115 [4.5]	115 [4.5]	115 [4.5]	168 [6.6]	168 [6.6]	168 [6.6]	168 [6.6]
D2	296.5 [11.6]	296.5 [11.6]	296.5 [11.6]	296.5 [11.6]	296.5 [11.6]	296.5 [11.6]	296.5 [11.6]	310.5 [12.2]	310.5 [12.2]	296.5 [11.6]	296.5 [11.6]	296.5 [11.6]	310.5 [12.2]	310.5 [12.2]	310.5 [12.2]	310.5 [12.2]
E1	69 [2.7]	69 [2.7]	69 [2.7]	69 [2.7]	115 [4.5]	115 [4.5]	115 [4.5]	164 [6.5]	164 [6.5]	115 [4.5]	115 [4.5]	115 [4.5]	164 [6.5]	164 [6.5]	164 [6.5]	164 [6.5]
E2	299.5 [11.7]	299.5 [11.7]	299.5 [11.7]	299.5 [11.7]	299.5 [11.7]	299.5 [11.7]	299.5 [11.7]	315 [12.4]	315 [12.4]	299.5 [11.7]	299.5 [11.7]	299.5 [11.7]	315 [12.4]	315 [12.4]	315 [12.4]	315 [12.4]
E3	99.5 [3.9]	99.5 [3.9]	99.5 [3.9]	99.5 [3.9]	145.5 [5.7]	145.5 [5.7]	145.5 [5.7]	199 [7.8]	199 [7.8]	145.5 [5.7]	145.5 [5.7]	145.5 [5.7]	199 [7.8]	199 [7.8]	199 [7.8]	199 [7.8]
E4	284 [11.2]	284 [11.2]	284 [11.2]	284 [11.2]	284 [11.2]	284 [11.2]	284 [11.2]	299.5 [11.8]	299.5 [11.8]	284 [11.2]	284 [11.2]	284 [11.2]	299.5 [11.8]	299.5 [11.8]	299.5 [11.8]	299.5 [11.8]
E5	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]
Ød	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5
Weight kg [lbs]	3.5 [7.7]	3.6 [7.9]	3.7 [8.1]	3.7 [8.1]	4.95 [10.9]	4.95 [10.9]	4.95 [10.9]	8.6 [19]	8.6 [19]	4.6 [10.1]	4.6 [10.1]	4.8 [10.6]	8.2 [18]	8.2 [18]	8.8 [19.4]	8.8 [19.4]

Standard Versions

**Dimensions and Weights**

AVy4... , AVy5... , AVy6... ,  
AVy7... , AVy8...

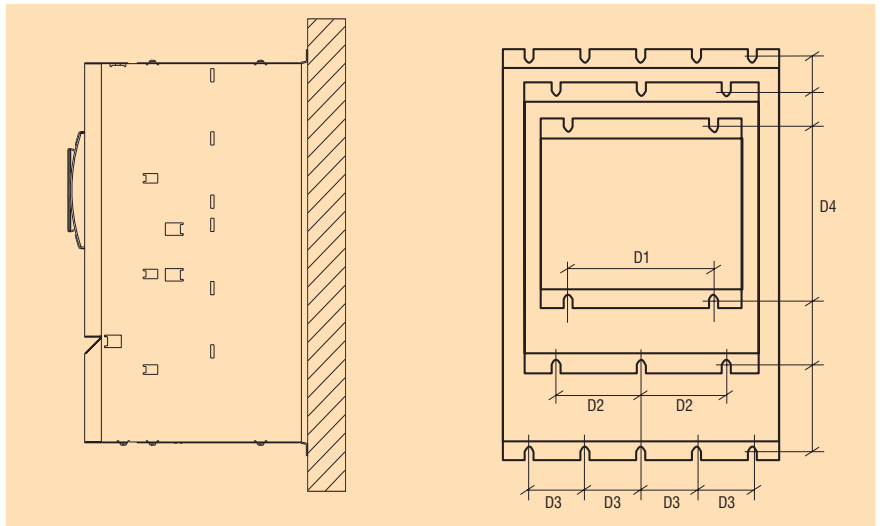
*Dimensioni e Pesì  
Dimensions et Poids  
Abmessungen und Gewichte  
Dimensiones y Pesos*



**Mounting Method**

*Metodo di Montaggio  
Mode de Montage  
Montageart  
Metodos de Montaje*

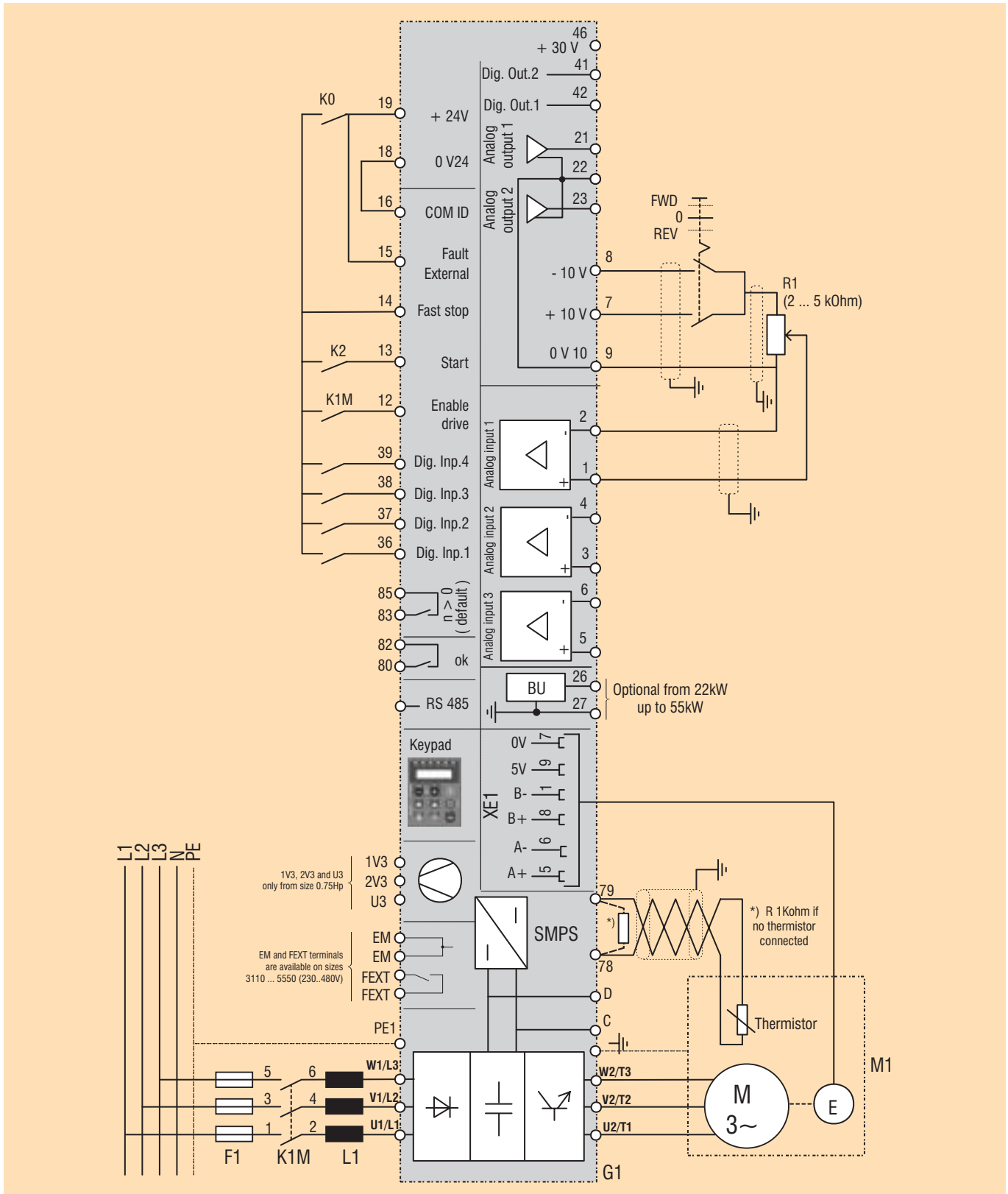
- (D): Wall mounting  
 Montaggio a muro  
 Montage au mur  
 Wandmontage  
 Montaje a la pared



Standard Versions

Dimensions	AVy & AVy...-4A										AVy...-5 (575V)									
	4220	4300	4370	5450	5550	6750	7900	7110	71320	81600	4025	4030	4040	5050	5060	5075	6100	7125	7150	8200
a	309 [12.1]	309 [12.1]	309 [12.1]	376 [14.7]	376 [14.7]	509 [20]	509 [20]	509 [20]	509 [20]	509 [20]	350 [13.8]	350 [13.8]	350 [13.8]	418 [16.4]	418 [16.4]	418 [16.4]	509 [20]	509 [20]	509 [20]	509 [20]
b	489 [19.2]	489 [19.2]	489 [19.2]	564 [22.2]	564 [22.2]	741 [29.2]	909 [35.8]	909 [35.8]	909 [35.8]	965 [38]	569 [22.4]	569 [22.4]	569 [22.4]	605 [23.8]	605 [23.8]	605 [23.8]	921 [36.2]	1113 [43.8]	1113 [43.8]	1183 [46.6]
c	268 [10.5]	308 [12.1]	308 [12.1]	308 [12.1]	308 [12.1]	297.5 [11.7]	297.5 [11.7]	297.5 [11.7]	297.5 [11.7]	442 [17.4]	268 [10.5]	268 [10.5]	320 [12.6]	320 [12.6]	320 [12.6]	320 [12.6]	297.5 [11.7]	297.5 [11.7]	297.5 [11.7]	297.5 [11.7]
D1	225 [8.8]	225 [8.8]	225 [8.8]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D2	-	-	-	150 [15.9]	150 [15.9]	-	-	-	-	-	150 [15.9]	150 [15.9]	150 [15.9]	150 [15.9]	150 [15.9]	150 [15.9]	-	-	-	-
D3	-	-	-	-	-	100 [3.9]	100 [3.9]	100 [3.9]	100 [3.9]	100 [3.9]	-	-	-	-	-	-	100 [3.9]	100 [3.9]	100 [3.9]	100 [3.9]
D4	457 [18.7]	457 [18.7]	457 [18.7]	550 [21.6]	550 [21.6]	725 [28.5]	891 [35]	891 [35]	891 [35]	947 [37.3]	555 [21.2]	555 [21.2]	555 [21.2]	590 [23.2]	590 [23.2]	590 [23.2]	903 [35.5]	1095 [43.1]	1095 [43.1]	1095 [43.1]
Ø d	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
Weight kg [lbs]	18 [39.6]	22 [48.5]	22.2 [48.9]	34 [74.9]	34 [74.9]	59 [130]	75.4 [166.1]	80.2 [176.7]	86.5 [190.6]	109 [240.3]	28.6 [62.9]	28.6 [62.9]	31.6 [69.5]	47 [103.6]	47 [103.6]	47 [103.6]	83 [183]	118 [260.1]	118 [260.1]	131 [288.8]





The connection diagram describes a typical inverter connection arrangement, set up to handle PNP logic "Terminal box commands". Refer to the instruction manual for additional detailed data.

Note: the connection diagram for the digital I/O applies to the AVy range.



Lo schema di collegamento indica una connessione tipica dell'inverter, predisposto per "Comandi da morsettiere" in logica PNP. Ulteriori informazioni dettagliate, sono disponibili nel relativo manuale d'istruzione.

Nota: lo schema di collegamento degli I/O digitali è relativo alla linea "AVy".



Le schéma de connexion indique une connexion typique du variateur, prévu pour "Commandes par bornes" en logique PNP.

Note: le schéma de raccordement des E/S digitales concerne la ligne "AVy".



Der Anschlussplan zeigt einen typischen Frequenzumrichteranschluss, der für "Befehle über Klemmleiste" in PNP-Logik bestimmt ist. Nähere Informationen sind dem entsprechenden Handbuch zu entnehmen.

Hinweis: Der Anschlussplan für die Digital-I/O bezieht sich auf die Serie "AVy".



El esquema de conexión describe un convertidor de frecuencia con una conexión típica, instalada para manejar en lógica PNP "Mandos de la Caja de Terminales". Utilice el manual de instrucciones para información detallada adicional.

Nota: el esquema de conexiones de las E/S digitales es en relación con la línea "AVy".

## A new concept in automation

The ARTDrive - AVy series represents an innovative field-oriented vector inverter concept, capable of incorporating the needs of OEMs, systems integrators and panel builders in order to make them more innovative and competitive in international markets.

Thanks to its advanced functions, high level of precision and ultimate performance, AVy is at the cutting edge of any application area where maximum motor performance and sophisticated regulating control architectures are an absolute must.

AVy is extremely adaptable to every technical requirement of state-of-the-art processes and control systems. Furthermore, its extensive range and series of specialized configurations guarantee success in almost any automation system.

## An extensive, versatile range

ARTDrive - AVy has been designed and developed to guarantee state-of-the-art machine configurations at an affordable price. Its full range of products, widely integrated hardware configurations, combined with intuitive and totally configurable programming software, ensure that AVy offers an excellent and flexible solution capable of meeting the widest range of system requirements quickly.

- Power supply:
 

3 x 230V - 15%...480V + 10%	50/60 Hz
3 x 575V ± 10%	50/60 Hz
- Motor powers from 0.75kW (1Hp) up to 630kW (700Hp)
- Regulation control modes:
  - Flux Vector closed-loop with feedback
  - Flux Vector open-loop without feedback (Sensorless)
  - Scalar V/f
- Output frequency 400Hz
- Integrated braking module up to 15kW, integrated as option up to 55kW
- Alphanumeric programming keypad
- Digital I/O commands in PNP and/or NPN logic
- 3 differential analog inputs ± 10V (voltage/current)
- 2 programmable analog outputs
- 8 digital inputs
- 4 digital outputs (2 opto-coupled and 2 relays)
- Programmable Overload up to 200% (IEC 146-1-1 Class 1 and Class 2)
- RS485 serial port (Modbus RTU protocol)
- Interfacing with the more common field bus interfaces: ProfiBus - CANopen - DeviceNet
- IP20 protection degree as standard (drive predisposition for mounting in IP54 with external heatsink)

## Un nuevo concepto de automatización

La serie ARTDrive - AVy es una nueva concepción de Inverter Vectorial de orientación de campo, resultado de la integración de las necesidades de los fabricantes OEM y de los integradores de sistemas de automatización, como ayuda para ser más innovadores y competitivos en el mercado internacional.

Las funciones evolucionadas, la elevada precisión y la altísima dinámica, dan como resultado el convertidor AVy, un producto a la vanguardia en todo tipo de aplicaciones, en las que sean indispensables las máximas prestaciones de regulación por medio de sofisticadas arquitecturas de control.

Altamente flexibles en todo tipo de exigencias tecnológicas de los modernos sistemas de control y proceso, AVy gracias a la amplia gama y a una serie de estructuras dedicadas, garantiza el éxito en soluciones de automatización prácticamente universales.

## Una gama amplia y versátil

ARTDrive - AVy ha sido estudiado y producido para garantizar vanguardistas configuraciones de máquina y al mismo tiempo, económicamente ventajosas. La gama completa de los productos, la gran integración de la configuración por hardware, unida a un software de programación intuitivo y completamente configurable, dan como resultado que el AVy sea una solución excelente para dar satisfacción de forma inmediata y flexible a las más variadas exigencias del sistema.

- Alimentación:
 

Trifásica 230V...480V	50/60 (Hz)
Trifásica 575V	50/60Hz
- Potencias de motores desde 0,75kW (1Hp) hasta 630kW (700Hp)
- Modalidad de control
  - Vectorial de flujo con realimentación
  - Vectorial de flujo sin realimentación (Sensorless)
  - Escalar V/f
- Frecuencia de salida 400Hz
- Unidad de frenado integrada hasta 15kW, opcional integrada hasta 55kW
- Teclado alfanumérico de programación
- Lógica de los comandos I/O digitales PNP y/o NPN
- 3 entradas analógicas diferenciales ± 10V
- 8 Entradas digitales
- 4 Salidas digitales (estáticas y 2 a relé)
- Sobrecarga programable hasta el 200% según IEC146-1-1 Clase 1 y Clase 2.
- Línea serie RS485 (protocolo Modbus RTU)
- Interfaz para los buses de campo más comunes: ProfiBus - CANopen - DeviceNet
- Grado de protección estándar IP20 (opción de IP54 para montaje con disipador exterior)



## Flexible and powerful

AVy includes as standard advanced control functions which offer totally flexible programming, making it ideal for both controlling single-motor solutions and implementing complex systems, such as those involved with automated machines, production lines, hoisting equipment, etc. where advanced control management is required.

- Off-line self-tuning: of speed-current-flux regulators and motor data identification (available with stand-still and/or rotating motor shaft)
- On-line self-tuning: motor parameters compensation according to the temperature variations
- Torque control: with OR built-in function, for the gradual communication between speed and torque regulators
- Simplified Start-up menu
- Instantaneous Overload up to 200%
- Motor and Drive I<sup>2</sup>t thermal protection
- Multispeed function (7 programmable presets)
- 5 independent programmable Multi-ramp ("linear" and "S" types)
- Motorpotentiometer function
- Flying restart function
- Droop function
- Double motor parameters setting
- PID block function
- Mains loss detection managed through controlled stop and/or energy optimization
- Virtual and Remote I/O management
- Internal Links with logical/mathematical functions

## Options

Given the availability of a huge range of specialized options, AVy can support integration in an almost unlimited number of control environments.

- I/O expansion cards, configurable according to the customer's machine needs
- Expansion cards for the management of auxiliary encoders (Incremental - Absolute - Resolver)
- Field-bus interface cards on board or in "stand alone" configuration: ProfiBus, CANopen, DeviceNet
- Programmable Application Card
- Safety cards for the power output bridge disabling (UNI IN 954-1 category 3)

## Flexible y potente

AVy integra como equipo estándar, evolucionadas funciones de control, caracterizadas por una flexibilidad total de programación que lo hacen ideal tanto para el control de soluciones monomotores como para sistemas complejos, como pueden ser máquinas automáticas, líneas de producción, elevación y muchos otros contextos de aplicación en los que se necesiten de sofisticadas gestiones de regulación.

- Calibración automática off-line: de los reguladores de velocidad-intensidad-flujo e identificación de datos de los motores (posible con motores parados y en rotación)
- Calibración automática on-line: compensación de los parámetros de los motores en función de las variaciones de temperatura
- Control de par: con función OR integrada, por comunicación gradual de los reguladores de velocidad y de los reguladores de par
- Menú Startup simplificado
- Sobrecarga instantánea del 200 %
- Protección térmica I<sup>2</sup>t por motor y Drive
- Función multivelocidad (7 programaciones)
- 5 rampas independientes y programables (lineales y en S)
- Función Motopotenciómetro
- Función de reenganche del motor al vuelo
- Función Droop
- Gestión doble motor
- Bloqueo función PID
- Gestión en caso de fallo red mediante: parada controlada y/o optimización de la energía
- Gestiones de E/S virtuales o remotas
- Links internos con funciones lógico/matemáticas

## Opciones

Gracias a una amplia serie de opciones específicas, AVy permite la integración en aplicaciones de control prácticamente ilimitadas.

- Tarjetas de ampliación de E/S, combinables en función de la necesidades de la máquina
- Tarjetas para la gestión de encoder suplementarios (Incremental - Absoluto - Resolver)
- Interfaz para buses de campo integrados o en configuración "stand alone" (solo) ProfiBus - CANopen - DeviceNet
- Placa aplicativa programable
- Tarjeta de seguridad por inhibición del puente de salida

## Accessories

- Dedicated EMC filters (in compliance with CEE - EN61800-3/A11)
- Braking resistors (standardized for the whole line)
- Input and Output chokes (standardized for the whole line)
- NEMA 1 type kit
- Remote keypad kit

## “EasyDrive” PC configuration software

With EasyDrive configuration software you can program and use AVy series inverters via your PC.

Its intuitive programming methodology enables you not only to have complete management of the inverter, but also to have natural and immediate confidence in using it, at whatever level of use, thereby guaranteeing the development of rapid procedures for implementing, optimizing and performing diagnostics on the system.

- RS485 serial communication device using Modbus RTU protocol
- setting parameters via main menus based on a tree structure
- read and write operations involving all parameters/commands
- off-line user file configuration
- on-line programming in a graphical environment
- parameter download and upload procedure
- user file archiving
- guided programming procedure for implementation using a Wizard function
- displaying variables graphically via a “Trend recorder” oscilloscope function
- multi-drop network management with up to 32 inverters

## Accesorios

- Filtros EMC dedicados (según la normativa europea (CEE - EN61800-3/A11)
- Resistencia de frenado (normalizada para toda la gama)
- Inductancia de entrada y salida (normalizada para toda la gama)
- Kit para el grado de protección NEMA 1
- Kit para teclado de programación remota

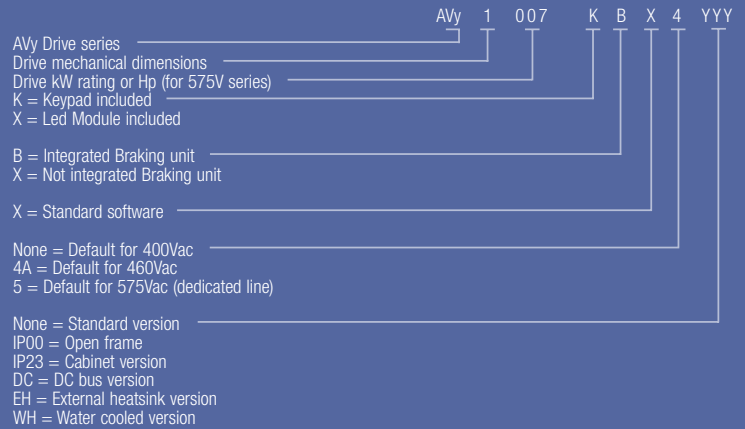
## Configurador para PC “Easy-Drive”

El software de configuración EasyDrive está diseñado para la programación y uso de los inverter de la AVy a través de PC.

La intuitiva modalidad de programación, además de permitir una gestión total del inverter, permite a cualquier nivel la utilización una fácil e inmediata, garantizando unos procedimientos rápidos de puesta en marcha, optimización y diagnóstico.

- comunicación serie RS485 por medio del protocolo Modbus RTU
- ajustes de los parámetros con estructura de árbol a través del menú principal
- lectura y escritura de todos los parámetros / comandos
- configuración off-line de los archivos de salida
- programación on-line en entorno gráfico
- procedimiento de download y upload de parámetros
- archivación de los archivos de salida
- procedimiento de programación guiada para la puesta en servicio por medio de la función de asistente, “Wizard”
- visualización gráfica de las variables a través de funciones de osciloscopio “Trend recorder”
- gestión en red multidrop de hasta 32 inverters

## Drive Type Designation



## Making applications accessible

Based on the advanced technology integrated on the APC100y application card, the AVy inverter is capable of meeting the most advanced application requirements associated with state-of-the-art automation systems.

The APC100y card comes with a range of predefined libraries or is completely programmable in an IEC1131 environment, which means it can be used to implement advanced control architectures requiring complex management of system variables, along with a high processing capacity.

Standard specialized applications:

- ELS Standard Electronic Line Shaft control
- TL Standard Winding/Un-Winding control
  - torque control in open-loop or closed-loop with load cell
- SD Standard Winder/Un-Winder control
  - speed regulation with dancer position feedback
- PosMono Single axis Standard Positioning
  - up to 64 preset registers
  - Absolute encoder management

The experience SIEI has acquired in the major application sectors has also produced an extensive range of specific and/or custom solutions for managing the most complex configurations in machines such as hoisting equipment, sheet metal working machinery, multi-axis positioning devices, etc...

## La aplicación al alcance de la mano

La evolucionada tecnología utilizada en la tarjeta de aplicación APC100y, permite al AVy satisfacer las exigencias más sofisticadas de los modernos sistemas de automatización.

Provista de una serie de librerías predefinidas o completamente programables en entorno IEC1131, la tarjeta APC100y permite la realización de arquitecturas de control avanzado, en las que sea necesaria la gestión compleja de las variables del sistema así como una elevada capacidad de cálculo.

Aplicaciones dedicadas estándar:

- ELS Control del eje eléctrico estándar
- TL Control de enrollado / desenrollado estándar
  - control de par en anillo abierto o con retroacción de celda de carga.
- SD Control de enrollado / desenrollado estándar
  - control de velocidad con retroacción de rodillo.
- PosMono Posicionador mono eje estándar
  - 64 posiciones predefinidas
  - Gestión encoder absoluto

La experiencia SIEI en los más importantes sectores de aplicación, pone además a disposición una amplia gama de soluciones específicas y/o personalizadas, para la gestión de las configuraciones más complejas de máquinas como: instalaciones de elevación, fabricación de chapa, posicionadores multiejes, etc...



## A single technology offering countless solutions

The benefit of capitalizing on the experience and flexibility offered by SIEL is crucial when the application involved is the issue. ARTDrive AVy can meet any machine installation requirement, offering a huge range of specialized solutions.

- **STANDARD VERSIONS**

- **AVy and AVy...-4A**

- Power supply: 3 x 230V -15%...480V +10% 50/60Hz ±5%
    - Motor powers from 0.75kW (0.75Hp) up to 315kW (450Hp)

- **AVy...-5**

- Power supply: 3 x 575V ±10% 50/60Hz ±5%
    - Motor powers from 2Hp up to 200Hp

- **CABINET VERSIONS**

- **AVy Cabinet**

- Power supply: 3 x 400V -15%...480V +10% 50/60Hz ±5%
    - Motor powers from 250kW (300Hp) up to 630kW (700Hp)
    - Standard IP23 protection degree (higher on request)

- **DC BUS POWER SUPPLY VERSIONS**

- **AVy...DC**

- DC power supply for straighten AC voltage up to 480V+10% 50/60Hz ±5%
    - Motor powers from 22kW (25Hp) a 630kW (700Hp)

- **VERSIONS WITH EXTERNAL HEATSINK ASSEMBLY**

- **AVy...EH**

- Power supply: 3 x 230V -15%...480V +10% 50/60Hz ±5%
    - Motor powers from 22kW (25Hp) up to 55kW (60Hp)

- **LIQUID COOLING VERSIONS**

- **AVy...WH**

- Power supply: 3 x 230V -15%...480V +10% 50/60Hz ±5%
    - Motor powers from 11kW (15Hp) up to 132kW (150Hp)

## Tecnología única para soluciones ilimitadas

Las ventajas de contar con la experiencia y la flexibilidad de SIEL resultan importantes cuando el problema es la aplicación. ARTDrive - AVy resuelve cualquier exigencia de instalación en máquina, ofreciendo una amplia gama de soluciones dedicadas.

- **VERSIONES ESTÁNDAR**

- **AVy y AVy...-4A**

- Alimentación trifásica 230V -15%...480V +10% 50/60Hz +/5%
    - Potencias de motores desde 0,75kW (0.75Hp) hasta 315kW (420Hp)

- **AVy...-5**

- Alimentación trifásica 575V ±10% 50/60Hz ±5%
    - Potencias de motores desde 2Hp hasta 200Hp

- **VERSIONES EN ARMARIO**

- **AVy Cabinet**

- Alimentación trifásica 400V -15%...480V +10% 50/60Hz +/5%
    - Potencias de motores desde 250kW (300Hp) hasta 630kW (700Hp)
    - Grado de protección estándar IP23 (superior bajo pedido)

- **VERSIONES PARA ALIMENTACIÓN DEL DC BUS**

- **AVy...DC**

- Alimentación de tensiones rectificadas hasta 480V +10% 50/60Hz +/5%
    - Potencias de motores desde 22kW (25Hp) hasta 630kW (700Hp)

- **VERSIONES CON MONTAJE DE DISIPADOR EXTERNO**

- **AVy...EH**

- Alimentación trifásica 230V -15%...480V +10% 50/60Hz +/5%
    - Potencias de motores desde 22kW (25Hp) hasta 55kW (60Hp)

- **VERSIONES CON REFRIGERACIÓN LÍQUIDA**

- **AVy...WH**

- Alimentación trifásica 230V -15%...480V +10% 50/60Hz +/5%
    - Potencias de motores desde 11kW (15Hp) hasta 132kW (150Hp)




Generalità  
Généralités  
Allgemeines  
General



## Introduction

Introduzione  
Introduction  
Einleitung  
Introducción

 ARTDrive G is a "General Purpose" range of inverters ideally suited to regulating the speed of an AC motor in any application where a high level of torque is required at start-up or during low speed operation. Typically, this includes extruders, mixers, presses, washers, compressors, centrifugal pumps, etc.

Equipped with a large number of standard I/O and a series of intelligent functions, the AGy inverter provides a single solution for a multitude of different market requirements - all in a financially competitive and highly versatile package.

A comprehensive range of dedicated options and accessories also guarantees total flexibility in meeting the vast range of different configurations demanded by modern control systems.

Designed and built with quick installation and programming in mind, AGy boasts a simple and intuitive "Start-up" menu, in addition to intelligent functions that enable the user both to program the machine and to manage its configuration.

Catering for a range of different types of power supply, the range of products are subdivided in the following manner:

**AGy...-4** and **AGy...-4A** for use with a 230V...480V, 50/60 Hz power supply rated from 5.5kW (7Hp) to 132kW (150Hp)

**AGy...-5** for use with a 575V, 50/60 Hz power supply rated from 2Hp to 150Hp



The intuitive AGy inverter programming software can be used to set up basic system settings and motor start-up in a simple and straightforward manner. Menus are subdivided in a logical manner, whilst lending themselves to the creation of structures facilitating the speedy optimisation and setting of more complicated controls.

<b>Menu d - Display</b>	Monitor operating variables and parameters
<b>Menu S - Startup</b>	Quick start-up
<b>Menu I - Interface</b>	Inputs / Outputs setting
<b>Menu F - Freq &amp; Ramp</b>	Frequencies and ramps setting
<b>Menu P - Parameter</b>	Parameters and functions setting
<b>Menu A - Application</b>	Application functions setting
<b>Menu C - Command</b>	Commands functions execution.



## Identification Code

Codice di Identificazione  
 Code d'Identification  
 Identifikationscode  
 Siglas Identificación Producto

AGy [ ] [ ] [ ] [ ] [ ] [ ] - [ ] - [ ]

AGy [ ] [ ] [ ] K [ ] [ ] - [ ] - [ ]

**ARTDriveG**  
 AC Inverter, 3 phase input voltage  
 Inverter CA, alimentazione trifase  
 Variateur CA, alimentation triphasée  
 Drehstrom-Frequenzrichter, dreiphasige Versorgung  
 Inverter CA, alimentación trifásica

AGy [ ] [ ] [ ] K [ ] [ ] - [ ] - [ ]

**2, 3, 4, 5, 6, 7**  
 Enclosure dimension identification  
 Identificazione della dimensione custodia  
 Taille du boîtier  
 Baugröße  
 Identificación de las dimensiones

AGy [ ] [ ] [ ] K [ ] [ ] - [ ] - [ ]

I.e., z.B.: 055 = 5.5kW  
**(AGy...-4 , AGy...-4A)**  
 Inverter rated output power  
 Potenza nominale in uscita  
 Puissance nominale de sortie  
 I.e., z.B.: 005 = 5Hp  
**(AGy...-5)**  
 Ausgangsnennleistung  
 Potencia nominal de salida

AGy [ ] [ ] [ ] K [ ] [ ] - [ ] - [ ]

**AGy...-4=KBG-1**  
**AGy...-4A=KBG-LCD-A2**  
**AGy...-5=KBG-LCD-A2**  
 Programming keypad  
 Tastierino di programmazione  
 Clavier de programmation  
 Programmierungs-Bedieneinheit  
 Teclado de programación

AGy [ ] [ ] [ ] K [ ] [ ] - [ ] - [ ]

**X, B**  
**X** = without integrated braking circuit, **B** = with integrated braking circuit  
**X** = senza unità di frenatura interna, **B** = con unità di frenatura interna  
**X** = sans unité de freinage interne, **B** = avec unité de freinage interne  
**X** = ohne Bremskreis, **B** = integrierter Bremskreis  
**X** = suministro sin unidad de frenado integrada, **B** = suministro con unidad de frenado integrada

AGy [ ] [ ] [ ] K [ ] [ ] - [ ] - [ ]

**X**  
 Standard software  
 Software standard  
 Logiciel standard  
 Standardsoftware  
 Software estándar

AGy [ ] [ ] [ ] K [ ] [ ] - [ ] - [ ]

**4, 4A, 5,**  
**-4** = standard version, **-4A** = American version, **-5** = 575V version  
**-4** = versione standard, **-4A** = versione America, **-5** = versione 575V  
**-4** = version standard, **-4A** = version Amérique, **-5** = version 575V  
**-4** = Standardausführung, **-4A** = Ausführung für Amerika, **-5** = 575 V Ausführung  
**-4** = versión estándar, **-4A** = versión América, **-5** = versión 575V

AGy [ ] [ ] [ ] K [ ] [ ] - [ ] - [ ]

**C, [blank]**  
**C** = CANopen/DeviceNet Integrated, **[blank]** = without CANopen (standard)  
**C** = CANopen/DeviceNet Integrato, **[vuoto]** = senza CANopen (standard)  
**C** = CANopen/DeviceNet Intégré, **[vide]** = sans CANopen (standard)  
**C** = CANopen/DeviceNet integriert, **[leer]** = ohne CANopen (Standard)  
**C** = CANopen/DeviceNet Integrado, **[vacío]** = sin CANopen (estandar)



### \*AGy...-4\* series

- Three phase power supply  
230V -15% ... 480V +10%, 50/60Hz ±5%
- Motor power rating from 5.5kW to 132kW
- Standard version complete with default setting for a 400V, 50Hz power supply

### \*AGy...-4A\* series

- Three phase power supply  
230V -15% ... 480V +10%, 50/60Hz ±5%
- Motor power rating from 5.5kW to 132kW (7Hp to 150Hp)
- "American" version complete with default setting for a 460V, 60Hz power supply

### \*AGy...-5\* series

- Three phase power supply 575V ±10%, 50/60Hz ±5%
- Motor power rating from 2Hp to 150Hp
- Version complete with default setting for a 575V, 60Hz power supply

### Standard

- Output frequency up to 500Hz
- Integrated dynamic brake unit
- Variable and constant torque control
- 16 programmable multispeeds
- 4 programmable multiramps
- Control functions:
  - "autocapture"
  - Mains loss detection with controlled stop
  - Programmable autorestart
  - PID applications block
  - Energy saving
  - Skip frequencies
- Programmable overload in accordance with EN 60146-1-1 Classes 1 and 2
- Field bus interface : ProfiBus, CANOpen and DeviceNet
- Integrated management for remote I/O control
- Open or closed speed loop control via encoder

### Standard Configuration

- **KBG-1:** 7 segment LED programming keypad for AGy...-4 version
- **KGB-LCD-A2:** multilingual programming keypad (ENG-FR-SP) complete with alphanumeric display for the AGy...-4A and AGy...-5 versions
- 2 analog differential inputs 0V...±10V and/or 0...+10V
- 1 analog current input 0...20mA and/or 4...20mA
- 2 analog programmable voltage outputs 0...10V (±10V)
- 8 digital programmable inputs (PNP or NPN logic)
- 2 digital programmable static outputs (open collector)
- 2 programmable relay outputs (double dry contact)
- RS485 serial line (Modbus RTU or Jbus protocol)

### Options

- **KGB-LCD-2:** multilingual programming keypad (IT-ENG-GER) complete with alphanumeric display
- **EXP-D6A1R1-AGy:** Inputs / Outputs expansion
- **EXP-D8-120:** digital inputs interface at 120VAc
- **QUIX-ENC:** encoder feedback management
- **SBI-PDP-AGy:** ProfiBus (Profidrive) interface
- **SBI-COP/DN-AGy:** CANOpen and / or DeviceNet interface
- **PRG-KEY:** data storage device

### Accessories (Optional)

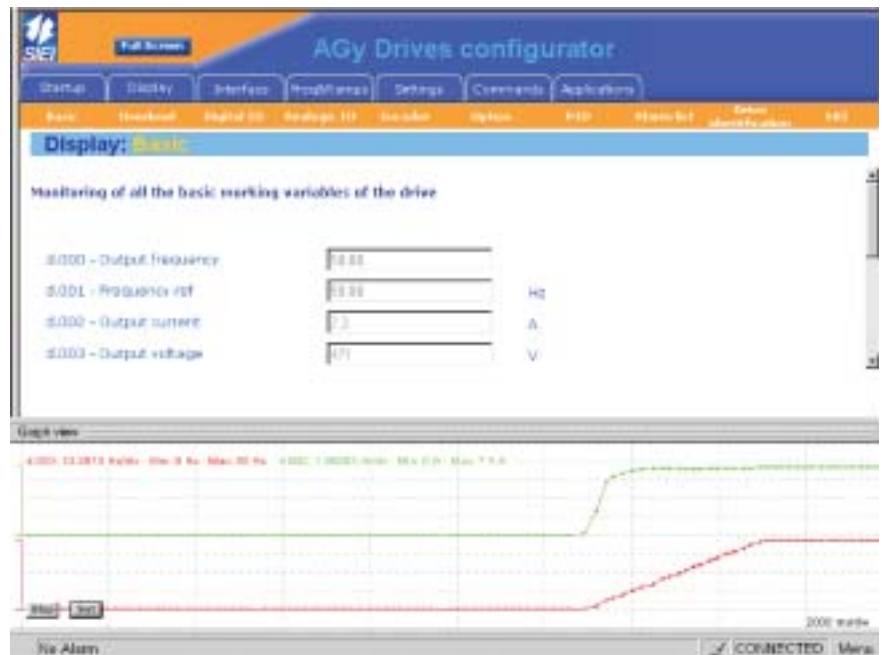
- Dedicated EMC filters (in compliance with EU directive EN50178)
- Brake resistance (standardised for the entire range)
- Input and output inductances (standardised for the entire range)
- Kit for installing NEMA 1 type protection
- Remote keypad kit


### Ambient conditions

- Housing:** IP20 (NEMA1 optional)
- Ambient temperature:** from 0°C to 40 °C, from + 40 °C to +50 °C with derating.
- Humidity:** from 5% to 85%, relative humidity (without condensation) or ice formation (category 3K3 in compliance with EN50178)
- Altitude:** up to 1000 metres above sea level. Above this ceiling, that the current is reduced by 1.2% for each additional 100 metres in altitude.

### Regulations and Brands

- EU:** conforms to the relevant EU low voltage equipment directive.
- UL, cUL:** conforms to directives for the US and Canadian markets.
- CSA:** conforms to directive for the Canadian market.
- EMC:** conforms to EU directive EN 61800-3, relating to electromagnetic compatibility with the use of optional filters.



 The E@syDrives configurator allows users to configure and operate AGy series inverters via the PC.

The menu structures are subdivided into HTML pages and allow for straightforward interfacing. This in turn, facilitates quick and easy start-up, optimisation and diagnostics.

E@syDrives operates in a typical Windows environment by displaying dialogue windows and toolbars, both for programming the inverter and for the management and storage of the configuration files in question.

The configurator can be installed on any PC running Windows 95 or above.

E@syDrives is included on the CD-ROM stored inside the drive packaging. The configurator can therefore be used to carry out the following operations:

- serial communication with the drive via the Modbus RTU or Jbus protocol
- multidrop network management for up to 32 inverters
- reading and writing of all parameters / commands
- configuration via HTML graphics pages
- configuration via parameter numerical index
- reading of all system variables
- oscilloscope function capable of graphically displaying signal trends
- parameter storage on drive memory
- configuration file management and storage
- on-line and off-line configuration



## PC tool “E@syDrives”

The E@syDrives pc tool, allows the user to configure and control the AGy inverter through the PC.

Using a simple HTML structure menu, the configurator offers an intuitive interface with the drive as well as fast and easy start-up procedures, optimization of the system and diagnostics.

- serial communication via Modbus (Jbus) protocol
- multidrop configuration up to 32 inverters
- reading and writing of all the parameters / commands
- configuration through HTML pages
- configuration through parameters numeric index
- complete reading of the system variables
- trend recorder function
- management of the configuration files
- on-line and off-line configuration modes

## Standard Configuration

### “AGy...-4” Series

- Supply 3ph 230V –15%...480V +10% 50/60Hz ±5%
- Motor powers from 5.5 up to 132kW (0.75...4kW on request)
- Standard version with default setting for supply 400V – 50Hz
- Standard setting with LED keypad “KBG-1”

### “AGy...-4A” Series

- Supply 3ph 230V –15%...480V +10% 50/60Hz ±5%
- Motor powers from 0.75 up to 132kW (1Hp up to 150Hp)
- “AMERICAN” version with default setting for supply 460V – 60Hz
- Standard setting with multilanguages keypad “KBG-LCD- A2” (ENG-FR-SP)

### “AGy...-5” Series

- Supply 3ph 575V ±10% 50/60Hz ±5%
- Motor powers from 2Hp up to 150Hp
- Version with default setting for supply 575V 60Hz
- Standard setting with multilanguages keypad “KBG-LCD-A2” (ENG-FR-SP)

## ARTDriveG

The ARTDriveG inverter series has been designed to satisfy the typical needs of modern control systems, where innovative technical solutions and high performance are essential.

It is expressly developed to provide the best performance in applications where high torque is required at start-up or at low frequencies. Thanks to its smart integrated functionality, the AGy inverter has a high number of I/O and a wide range of options, allowing full flexibility and adaptability for all automation requirements.

A simple programming structure, guarantees a quick motor “start-up” and/or more complex systems regulation, either through the simple-to-use standard keypad or through using the E@syDrives PC tool.

Available for universal supplies and with a wide power range, modular structure and dedicated accessories line, AGy offers the basis for efficient configurations and economically competitive solutions.

## A single “Drive” for every solution

- Supply:
  - 3 x 230V...480V 50/60Hz (AGy...-4 and AGy...- 4A series )
  - 3 x 575Vac 50/60Hz (AGy...-5 series)
- Motor powers from 0.75kW (1Hp) up to 132kW (150Hp)
- Output frequency 500Hz
- Integrated braking module up to 15kW, integrated option up to 55kW
- Speed feed-back with closed loop through encoder (option)
- Digital I/O logic control in PNP and/or NPN configuration
- 3 Differential analog inputs ±10V (or current)
- 3 Analog outputs (±10V)
- 8 Digital inputs
- 4 digital outputs (2 static and 2 relays)
- Programmable overload up to 150% in accordance with IEC146-1-1 Class 1 e Class 2
- LCD multilanguages keypad or numeric display keypad
- RS485 Serial line (Modbus RTU protocol)
- Interfacing with fieldbus protocol as:
  - ProfiBus (Profidrive) – CANOpen – DeviceNet
- Integrated CANOpen/DeviceNet version
- Protection degree IP20 (option IP54 for external heatsink mounting)

## Full flexibility

- Motor parameters self tuning
- Programmable and predefined V/f curves
- 4 Independent programmable ramps
- 16 Programmable multispeed
- "Autocapture" function (Flying restart)
- Mains loss detection with controlled stop
- Programmable autorestart
- PID Application block
- Energy saving function
- Skip frequencies
- Motor thermal protection
- Virtual and remote I/O standard management

## Options

- Programming multilanguages keypad KBG-LCD-2 (IT-ENG-GERM)
- Programming multilanguages keypad KBG-LCD-A2 (ENG-FR-SP) for AGy...-4 version
- I/O expansion card EXP-D6A1R1-AGy
- 120Vac Digital input interface EXP-D8-120
- Encoder feed-back interface QUIX-ENC
- ProfiBus interface card SBI-PDP-AGy
- Memory key PRG-KEY



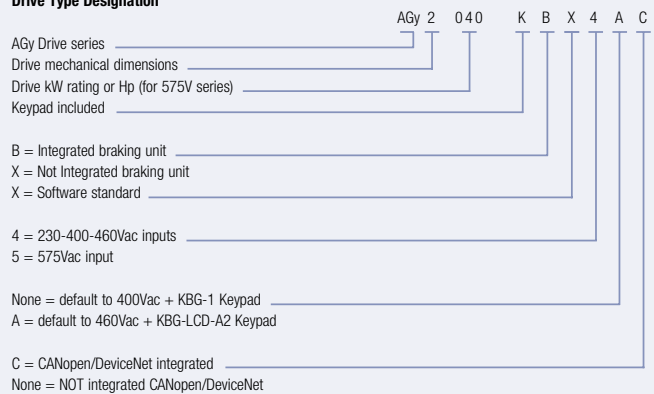
## Flexibilidad total

- Auto ajuste de los parámetros del motor
- Curvas V/f programables y predefinidas
- 4 rampas programables independientes
- 16 multivelocidades programables
- Función "Autocapture" (Reinicio al vuelo)
- Autoreinicio programable
- Bloque de aplicación PID
- Función de ahorro de energía
- Frecuencias de salto
- Protección térmica del motor
- Gestión estándar de E/S virtual y remota

## Opciones

- Teclado multilingüe de programación KBG -LCD-2 ( IT-ENG-GERM )
- Teclado multilingüe de programación KBG-LCD-A2 (ENG-FR-SP) para la versión AGy...-4
- Tarjeta de ampliación de E/S EXP - D6A1R1 - AGy
- Interface de entrada digital de 120 Vca EXP-D8-120
- Interface de retroalimentación del encoder QUIX-ENC
- Tarjeta de interface ProfiBus SBI-PDP-AGy
- Tecla de memoria PRG-KEY

### Drive Type Designation



## Accessories

- Dedicated EMC filters
- Braking resistors (standardized for the whole line)
- Input and Output choke (standardized for the whole line)
- NEMA 1 type Kit
- Programming remote keypad Kit

## Accesorios

- Filtros EMC específicos (de acuerdo con la directiva europea CEE – EN61800-3 / A11)
- Resistencias de frenado (estandarizadas para toda la línea)
- Difusor de entrada y de salida (estandarizado para toda la línea)
- Kit tipo NEMA 1
- Kit de teclado remoto de programación

**"AGy...-4" and "AGy...-4A"****Drive Type - kW rating**

		1007	1015	1022	1030	2040	2055	2075	3110	3150	4220	4300	4370	5450	5550	6750	7900	71100	71320						
<b>Technical data</b>																									
U <sub>N</sub> AC Input voltage	[V]	230 V -15% ... 480 V +10%, 3Ph																							
AC Input frequency	[Hz]	50/60 Hz ±5%																							
Inverter Output (IEC 146 class 1)																									
Continuous service (@ 400Vac)	[kVA]	1.6	2.7	3.8	5	6.5	8.5	12	16.8	22.4	32	42	55	64	79	98	128	145	173						
Inverter Output (IEC 146 class 2)																									
150% overload for 60s (@ 400Vac)	[kVA]	1.4	2.4	3.4	4.5	5.9	7.7	10.9	15.3	20.3	29	38.2	50	58.3	72	89.2	116.5	132	157.5						
P <sub>N</sub> motor (recommended output):																									
@ U <sub>N</sub> =230Vac; f <sub>sw</sub> =default; IEC 146 class 1	[kW]	0.37	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	18.5	22	22	30	37	55	55	75						
@ U <sub>N</sub> =230Vac; f <sub>sw</sub> =default; IEC 146 class 2	[kW]	0.37	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22	30	37	45	55	55						
@ U <sub>N</sub> =400Vac; f <sub>sw</sub> =default; IEC 146 class 1	[kW]	0.75	1.5	2.2	3	4	5.5	7.5	11	15	22	30	37	45	55	75	90	110	132						
@ U <sub>N</sub> =400Vac; f <sub>sw</sub> =default; IEC 146 class 2	[kW]	0.75	1.5	2.2	3	4	5.5	7.5	11	15	22	30	37	45	55	55	90	90	110						
@ U <sub>N</sub> =460Vac; f <sub>sw</sub> =default; IEC 146 class 1	[Hp]	1	2	3	3	5	7.5	10	15	20	30	40	50	60	75	100	125	150	150						
@ U <sub>N</sub> =460Vac; f <sub>sw</sub> =default; IEC 146 class 2	[Hp]	0.75	1.5	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150						
U <sub>2</sub> Max output voltage	[V]	0.94 x U <sub>N</sub> (AC Input voltage)																							
f <sub>2</sub> Max output frequency	[Hz]	500																							
I <sub>2N</sub> Rated output current :																									
@ U <sub>N</sub> =230-400Vac; f <sub>sw</sub> = default; IEC 146 class 1	[A]	2.4	4	5.6	7.5	9.6	12.6	17.7	24.8	33	47	63	79	93	114	142	185	210	250						
@ U <sub>N</sub> =230-400Vac; f <sub>sw</sub> =default; IEC 146 class 2	[A]	2.2	3.6	5.1	6.8	8.7	11.5	16.1	22.5	30	43	58	72	85	104	129	169	191	227						
@ U <sub>N</sub> =460Vac; f <sub>sw</sub> =default; IEC 146 class 1	[A]	2.1	3.5	4.9	6.5	8.3	11	15.4	21.6	28.7	40	54	68	81	99	124	160	183	217						
@ U <sub>N</sub> =460Vac; f <sub>sw</sub> =default; IEC 146 class 2	[A]	1.9	3.2	4.4	5.9	7.6	10	14	19.6	26	36	50	62	74	90	112	146	166	198						
f <sub>sw</sub> switching freq. (Default)	[kHz]	8																							
f <sub>sw</sub> switching freq. (Higher)	[kHz]	16																							
Dimensions (width)	mm	105.5			151.5			208			309			376			509								
	[inch]	[4.1]			[5.9]			[8.2]			[12.1]			[14.7]			[20]								
Dimensions (length)	mm	306.5						323						489						741					
	[inch]	[12.0]						[12.7]						[19.2]						[29.2]					
Dimensions (depth)	mm	199.5						240						268						308					
	[inch]	[7.8]						[9.5]						[10.5]						[12.1]					
Weight	Kg	3.5	3.6	3.7		4.95		8.6	18	22	22.2	34	59	75.4	80.2	86.5									
	[lbs]	[7.7]	[7.9]	[8.1]		[10.9]		[19]	[39.6]	[48.9]	[48.9]	[74.9]	[130]	[166.1]	[176.7]	[190.6]									

**"AGy...-5"****Drive Type - Hp rating**

		2002	2003	2005	3007	3010	3015	3020	4025	4030	4040	5050	5060	5075	6100	7125	7150	8200	
<b>Technical data</b>																			
U <sub>N</sub> AC Input voltage	[V]	575 V -15% ... 480 V +10%, 3Ph																	
AC Input frequency	[Hz]	50/60 Hz ±5%																	
Inverter Output (IEC 146 class 1)																			
Continuous service	[kVA]	3.8	4.5	7.0	10.8	13.7	18.6	24.1	30	36	46	58	69	86	109	136	157	210	
Inverter Output (IEC 146 class 2)																			
150% overload for 60s	[kVA]	3.4	4.1	6.3	9.8	12.5	16.9	21.9	27	33	42	53	63	78	99	125	143	191	
P <sub>N</sub> motor (recommended output):																			
@ U <sub>N</sub> =575Vac; f <sub>sw</sub> =default; IEC 146 class 1	[Hp]	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	
@ U <sub>N</sub> =575Vac; f <sub>sw</sub> =default; IEC 146 class 2	[Hp]	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	
U <sub>2</sub> Max output voltage	[V]	0.98 x U <sub>N</sub> (AC Input voltage)																	
f <sub>2</sub> Max output frequency	[Hz]	400																	
I <sub>2N</sub> Rated output current :																			
@ U <sub>N</sub> =575Vac; f <sub>sw</sub> =default; IEC 146 class 1	[A]	3.8	4.5	7.0	10.8	13.7	18.6	24.1	30	36	46	58	69	86	109	137	158	211	
@ U <sub>N</sub> =575Vac; f <sub>sw</sub> =default; IEC 146 class 2	[A]	3.5	4.1	6.3	9.8	12.5	16.9	21.9	27	33	42	53	63	78	99	125	144	192	
f <sub>sw</sub> switching freq. (Default)	[kHz]	8																	
f <sub>sw</sub> switching freq. (Higher)	[kHz]	16																	
Dimensions (width)	mm	151.5			208			350			418			509					
	[inch]	[5.9]			[8.2]			[13.8]			[16.4]			[20]					
Dimensions (length)	mm	306.5						323						569					
	[inch]	[12.0]						[12.7]						[22.4]					
Dimensions (depth)	mm	199.5						240						268					
	[inch]	[7.8]						[9.5]						[10.5]					
Weight	Kg	4.6	4.8	8.2		8.8		28.6	31.6	47	83	118	131						
	[lbs]	[10.1]	[10.6]	[18]		[19.4]		[63.1]	[67.9]	[103.6]	[183]	[260.1]	[288.6]						

**Environmental Condition**

<b>Enclosures</b>	IP20 (NEMA type 1 option)
<b>Ambient temperature</b>	0 ... 40°C, +40°C...+50°C with derating
<b>Altitude</b>	up to 1000 m without current limitation

**Normative and marks**

<b>CE</b>	in compliance with CEE directives, for low voltage devices.
<b>UL, cUL, CSA</b>	in compliance with American and Canadian market directives.
<b>EMC</b>	in compliance with CEE - EN 61800-3 / A11 electromagnetic compatibility directive, using optional filters.

**Condiciones ambientales**

<b>Cajas</b>	IP20 (tipo NEMA 1 opcional)
<b>Temperatura ambiente</b>	0 ... 40°C, +40°C...+50°C con derating
<b>Altitud</b>	hasta 1.000 m sin límite de intensidad

**Normativa y marcas**





<b>CE</b>	de acuerdo con las directivas CEE, para dispositivos de bajo voltaje
<b>UL, cUL y CSA</b>	de acuerdo con las directivas de mercado Norte americanas y Canadienses.
<b>EMC</b>	de acuerdo con la directiva de compatibilidad electromagnética CEE - EN 61800-3 / A11, utilizando filtros opcionales



## Ordering Codes

Bestellnummern  
Códigos de Mandos

### AGy...-4 Series

-  3 x 230V<sub>AC</sub>...480V<sub>AC</sub> power supplies (factory set for 400V<sub>AC</sub>-50Hz), KBG-1 keypad
-  Alimentazione 3 x 230V<sub>AC</sub>...480V<sub>AC</sub> (impostazione di fabbrica per 400V<sub>AC</sub>-50Hz), Tastiera a led KBG-1
-  Alimentation 3 x 230V<sub>CA</sub>...480V<sub>CA</sub> (paramétrage en usine pour 400V<sub>AC</sub>-50Hz), Console à voyants KBG-1
-  Versorgung 3 x 230V<sub>AC</sub>...480V<sub>AC</sub> (werkseitige Einstellung für 400V<sub>AC</sub>-50Hz), Bedieneinheit mit KBG-1



SIEI Code	Type	Rated power @ 400V <sub>AC</sub>	Standard settings
S906P	AGy2055-KBX-4	5.5 kW	Braking unit
S907P	AGy2075-KBX-4	7.5 kW	Braking unit
S908P	AGy3110-KBX-4	11 kW	Braking unit
S909P	AGy3150-KBX-4	15 kW	Braking unit
S911P	AGy4220-KBX-4	22 kW	Braking unit
S913P	AGy4300-KBX-4	30 kW	Braking unit
S915P	AGy4370-KBX-4	37 kW	Braking unit
S917P	AGy5450-KBX-4	45 kW	Braking unit
S919P	AGy5550-KBX-4	55 kW	Braking unit
S910P	AGy4220-KXX-4	22 kW	
S912P	AGy4300-KXX-4	30 kW	
S914P	AGy4370-KXX-4	37 kW	
S916P	AGy5450-KXX-4	45 kW	
S918P	AGy5550-KXX-4	55 kW	
S920P	AGy6750-KXX-4	75 kW	
S921P	AGy7900-KXX-4	90 kW	
S922P	AGy71100-KXX-4	110 kW	
S923P	AGy71320-KXX-4	132 kW	

## Ordering Codes

### Input Chokes

Induttanze di Rete  
Inductances de Réseau  
Netzdröseln  
Inductancia de Red



AGy... -4/4A (230...480V)						
Drive type	Mains choke [mH]	Rated current [A]	Saturation current [A]	Frequency [Hz]	Model Number	SIEI code
AGy2055	1.29	11.8	24.5	50/60	LR3y-2055	S7AB5
AGy2075	0.89	17.4	36.5	50/60	LR3y-2075	S7AB6
AGy3110	0.68	22.4	46.5	50/60	LR3y-3110	S7AB7
AGy3150	0.51	30	61	50/60	LR3y-3150	S7AB8
AGy4220	0.35	41	83	50/60	LR3-022	S7FF4
AGy4300	0.24	58	120	50/60	LR3-030	S7FF3
AGy4370	0.18	71	145	50/60	LR3-037	S7FF2
AGy5450	0.13	102	212	50/60	LR3-055	S7FF1
AGy5550	0.13	102	212	50/60	LR3-055	S7FF1
AGy6750	0.148	173	350	50/60	LR3-090	S7D19
AGy7900	0.148	173	350	50/60	LR3-090	S7D19
AGy71100	0.085	297	600	50/60	LR3-160	S7D40
AGy71320	0.085	297	600	50/60	LR3-160	S7D40



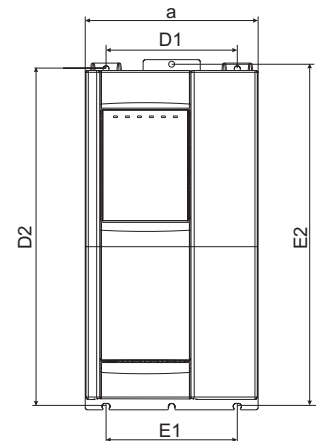
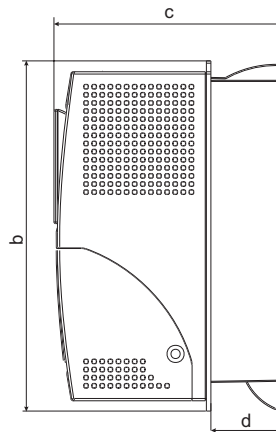
Specifiche Tecniche  
Spécifications Techniques

Technische Spezifikationen  
Especificaciones Técnicas

## Dimensions and Weights

AGy2... , AGy3...

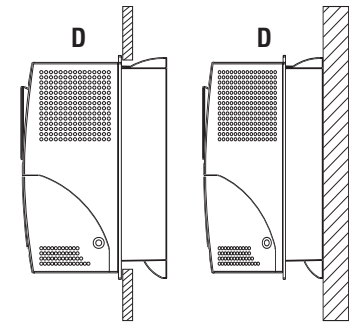
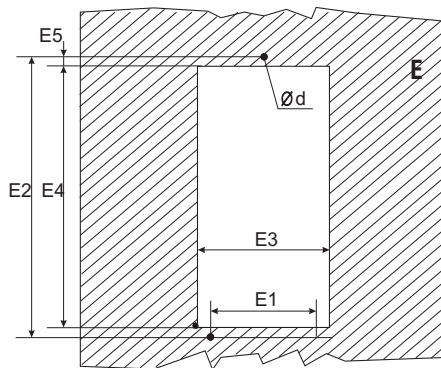
Dimensioni e Pesì  
Dimensions et Poids  
Abmessungen und Gewichte  
Dimensiones y Pesos



## Assembly Method

Metodo di Montaggio  
Mode de Montage  
Montageart  
Metodos de Montaje

- (E): Assembly with external heatsink  
 Montaggio con dissipatore esterno  
 Montage avec dissipateur extérieur  
 Montage mit externem Kühlkörper  
 Montaje con disipador externo
- (D): Wall assembly  
 Montaggio a muro  
 Montage au mur  
 Wandmontage  
 Montaje a la pared



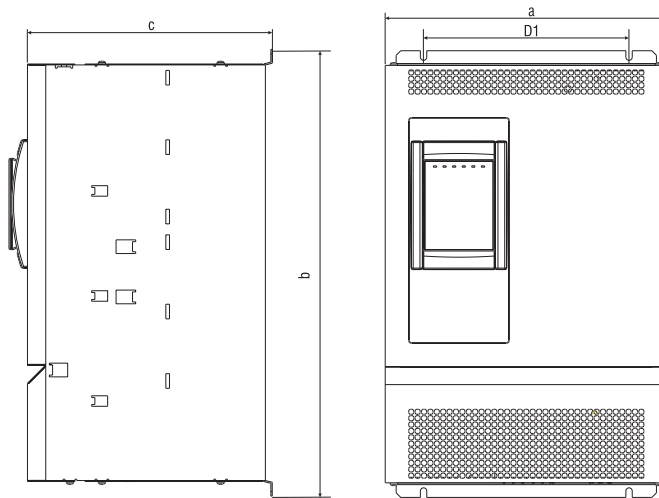
Dimensions mm [inch]	AGy...-4 (230V...480V)				AGy...-5 (575V)						
	2055	2075	3110	3150	2002	2003	2005	3007	3010	3015	3020
a	151.5 [5.9]	151.5 [5.9]	208 [8.2]	208 [8.2]	151.5 [5.9]	151.5 [5.9]	151.5 [5.9]	208 [8.2]	208 [8.2]	208 [8.2]	208 [8.2]
b	306.5 [12.0]	306.5 [12.0]	323 [12.7]	323 [12.7]	306.5 [12.0]	306.5 [12.0]	306.5 [12.0]	323 [12.7]	323 [12.7]	323 [12.7]	323 [12.7]
c	199.5 [7.8]	199.5 [7.8]	240 [9.5]	240 [9.5]	199.5 [7.8]	199.5 [7.8]	199.5 [7.8]	240 [9.5]	240 [9.5]	240 [9.5]	240 [9.5]
d	62 [2.4]	62 [2.4]	84 [3.3]	84 [3.3]	62 [2.4]	62 [2.4]	62 [2.4]	84 [3.3]	84 [3.3]	84 [3.3]	84 [3.3]
D1	115 [4.5]	115 [4.5]	168 [6.6]	168 [6.6]	115 [4.5]	115 [4.5]	115 [4.5]	168 [6.6]	168 [6.6]	168 [6.6]	168 [6.6]
D2	296.5 [11.6]	296.5 [11.6]	310.5 [12.2]	310.5 [12.2]	296.5 [11.6]	296.5 [11.6]	296.5 [11.6]	310.5 [12.2]	310.5 [12.2]	310.5 [12.2]	310.5 [12.2]
E1	115 [4.5]	115 [4.5]	164 [6.5]	164 [6.5]	115 [4.5]	115 [4.5]	115 [4.5]	164 [6.5]	164 [6.5]	164 [6.5]	164 [6.5]
E2	299.5 [11.7]	299.5 [11.7]	315 [12.4]	315 [12.4]	299.5 [11.7]	299.5 [11.7]	299.5 [11.7]	315 [12.4]	315 [12.4]	315 [12.4]	315 [12.4]
E3	145.5 [5.7]	145.5 [5.7]	199 [7.8]	199 [7.8]	145.5 [5.7]	145.5 [5.7]	145.5 [5.7]	199 [7.8]	199 [7.8]	199 [7.8]	199 [7.8]
E4	284 [11.2]	284 [11.2]	299.5 [11.8]	299.5 [11.8]	284 [11.2]	284 [11.2]	284 [11.2]	299.5 [11.8]	299.5 [11.8]	299.5 [11.8]	299.5 [11.8]
E5	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]	9 [0.35]
$\varnothing d$	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5	M5
Weight kg [lbs]	4.95 [10.9]	4.95 [10.9]	8.6 [19]	8.6 [19]	4.6 [10.1]	4.6 [10.1]	4.8 [10.6]	8.2 [18]	8.2 [18]	8.8 [19.4]	8.8 [19.4]

# Technical Specifications

## Dimensions and Weights

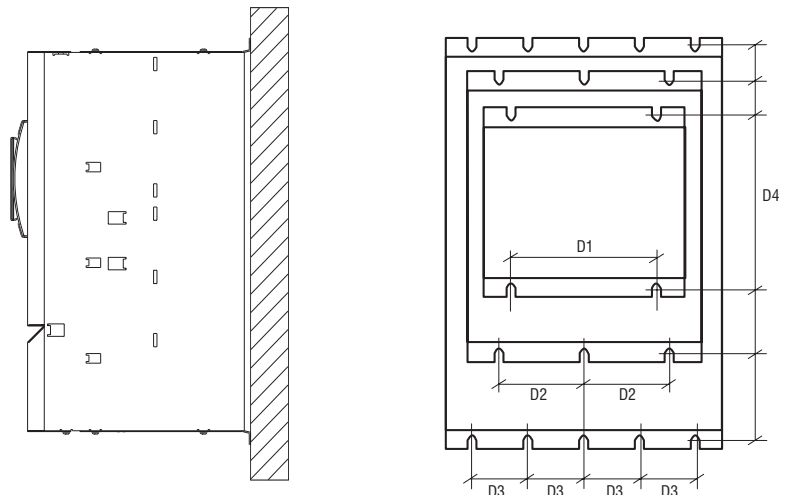
AGy4... , AGy5... , AGy6... , AGy7...

*Dimensioni e Pesi*  
*Dimensions et Poids*  
*Abmessungen und Gewichte*  
*Dimensiones y Pesos*



## Mounting Method

*Metodo di Montaggio*  
*Mode de Montage*  
*Montageart*  
*Metodos de Montaje*

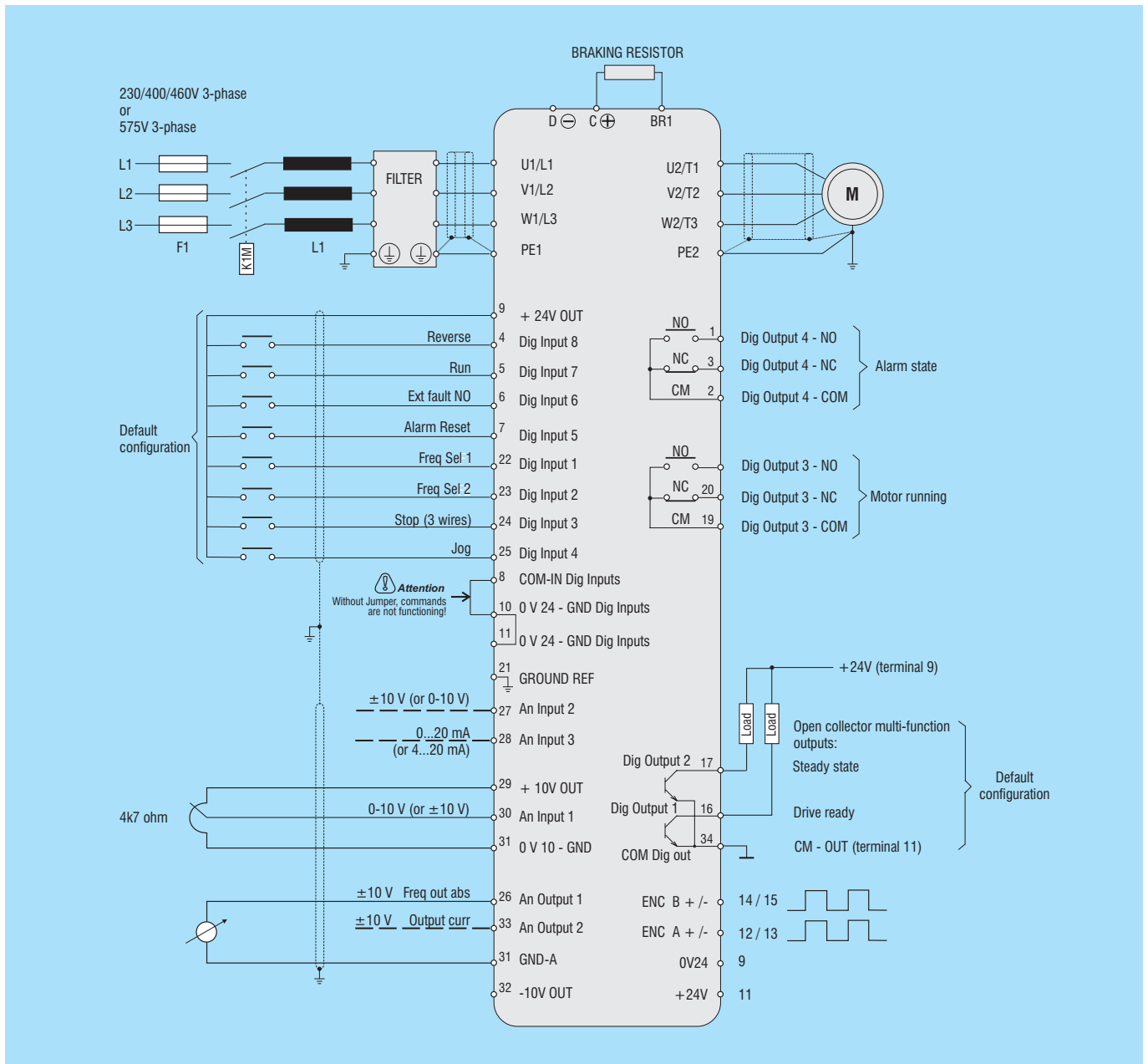


- (D):
- Wall mounting
  - Montaggio a muro
  - Montage au mur
  - Wandmontage
  - Montaje a la pared

Dimensions	AGy...-4 (230V...480V)									AGy...-5 (575V)								
	4220	4300	4370	5450	5550	6750	7900	7110	71320	4025	4030	4040	5050	5060	5075	6100	7125	7150
a	309 [12.1]	309 [12.1]	309 [12.1]	376 [14.7]	376 [14.7]	509 [20]	509 [20]	509 [20]	509 [20]	350 [13.8]	350 [13.8]	350 [13.8]	418 [16.4]	418 [16.4]	418 [16.4]	509 [20]	509 [20]	509 [20]
b	489 [19.2]	489 [19.2]	489 [19.2]	564 [22.2]	564 [22.2]	741 [29.2]	909 [35.8]	909 [35.8]	909 [35.8]	569 [22.4]	569 [22.4]	569 [22.4]	605 [23.8]	605 [23.8]	605 [23.8]	921 [36.2]	1113 [43.8]	1113 [43.8]
c	268 [10.5]	308 [12.1]	308 [12.1]	308 [12.1]	308 [12.1]	297.5 [11.7]	297.5 [11.7]	297.5 [11.7]	297.5 [11.7]	268 [10.5]	268 [10.5]	320 [12.6]	320 [12.6]	320 [12.6]	320 [12.6]	297.5 [11.7]	297.5 [11.7]	297.5 [11.7]
D1	225 [8.8]	225 [8.8]	225 [8.8]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D2	-	-	-	150 [15.9]	150 [15.9]	-	-	-	-	150 [15.9]	150 [15.9]	150 [15.9]	150 [15.9]	150 [15.9]	150 [15.9]	-	-	-
D3	-	-	-	-	-	100 [3.9]	100 [3.9]	100 [3.9]	100 [3.9]	-	-	-	-	-	-	100 [3.9]	100 [3.9]	100 [3.9]
D4	457 [18.7]	457 [18.7]	457 [18.7]	550 [21.6]	550 [21.6]	725 [28.5]	891 [35]	891 [35]	891 [35]	555 [21.2]	555 [21.2]	555 [21.2]	590 [23.2]	590 [23.2]	590 [23.2]	903 [35.5]	1095 [43.1]	1095 [43.1]
Ø d	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
Weight kg [lbs]	18 [39.6]	22 [48.5]	22.2 [48.9]	34 [74.9]	34 [74.9]	59 [130]	75.4 [166.1]	80.2 [176.7]	86.5 [190.6]	28.6 [62.9]	28.6 [62.9]	31.6 [69.5]	47 [103.6]	47 [103.6]	47 [103.6]	83 [183]	118 [260.1]	118 [260.1]

# Typical Connection Scheme

Schema Tipico di Collegamento  
 Schéma Typique de Raccordement  
 Typischer Anschlussplan  
 Diagrama Tipico de Conexión



The connection diagram describes a typical inverter connection arrangement, set up to handle PNP logic "Terminal box commands". Refer to the instruction manual for additional detailed data.



Lo schema di collegamento indica una connessione tipica dell'inverter, predisposto per "Comandi da morsettiera" in logica PNP. Ulteriori informazioni dettagliate, sono disponibili nel relativo manuale d'istruzione.



Le schéma de connexion indique une connexion typique du variateur, prévu pour "Commandes par bornes" en logique PNP. Pour de plus amples informations voir la notice d'instruction correspondante.



Der Anschlussplan zeigt einen typischen Frequenzumrichteranschluss, der für "Befehle über Klemmleiste" in PNP-Logik bestimmt ist. Nähere Informationen sind dem entsprechenden Handbuch zu entnehmen.



El esquema de conexión describe un convertidor de frecuencia con una conexión típica, instalada para manejar en lógica PNP "Mandos de la Caja de Terminales". Utilice el manual de instrucciones para información detallada adicional.