Easy Drive

EasyDrive

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

```
AVy _ _ _ _ _ _ -_
    ①   ②  ③④⑤ ⑥
```
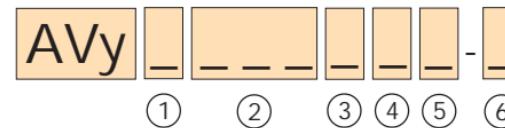
	🇬🇧	🇮🇹	🇫🇷	🇩🇪	🇪🇸
AVy	**ARTDrive** AC Inverter, 3 phase input voltage	ARTDrive Inverter CA, alimentazione trifase	**ARTDrive** Variateur CA, alimentation triphasée	**ARTDrive** Drehstrom-Frequenzumrichter dreiphasige	**ARTDrive** Inverter CA, alimentación trifásica
①	Enclosure dimension identification	Identificazione della dimensione	Taille du boitier	Versorgung Baugröße	Identificación de las dimensiones
②	Inverter rated output power **AVy:** I.e.: 055 =5.5kW **AVy...-5:** I.e.: 005 =5Hp	Potenza nominale in uscita **AVy:** Es.: 055 =5.5kW **AVy...-5:** Es.: 005 =5Hp	Puissance nominale de sortie **AVy:** Es: 055 =5.5kW **AVy...-5:** Es.: 005 =5Hp	Ausgangsnennleistung **AVy:** z.B.: 055 =5.5kW **AVy...-5:** z.B.: 005 =5Hp	Potencia nominal de salida **AVy:** Es.: 055 =5.5kW **AVy...-5:** Es.: 005 =5Hp
③	**X** = KCS leds module **K** = Programming keypad KBS	**X** = Modulo a led KCS **K** = Tastierino di programmazione KBS	**X** = Module à diodes (LED) KCS **K** = Clavier de programmation KBS	**X** = KCS LED-Modul **K** = Programmierungs-Bedieneinheit KBS	**X** = modulo de leds KCS **K** = Teclado de programación KBS
④	**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
⑤	**X** = Standard software	**X** = Software standard	**X** = Logiciel standard	**X** = Standardsoftware	**X** = Software estándar
⑥	**[blank]** = 230 ... 480V version **-4A** = 460V version **-5** = 575V version **-C/CP** = compact version	**[vuoto]** = versione 230 ... 480V **-4A** = versione 460V **-5** = versione 575V **-C/CP** = versione 400 ... 480V compatta	**[vide]** = version 230 ... 480V **-4A** = version 460V **-5** = version 575V **-C/CP** = version 400 ... 480V compacte	**[leer]** = versione 230 ... 480V **-4A** = 460 V Ausführung **-5** = 575 V Ausführung **-C/CP** = Ausführung 400 ... 480V kompakt	**[vacío]** = versión 230 ... 480V **-4A** = versión 460V **-5** = versión 575V **-C/CP** = versión 400 ... 480V compacta

🇬🇧 *General Features*

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)
- I²t 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

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 400 Vac, 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

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)

PROFIBUS PROCESS FIELD BUS **CANopen**

DeviceNet **Modbus**

Field bus and serial protocol

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.
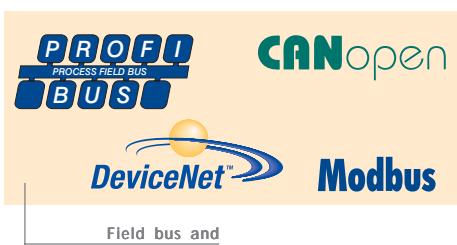
Standards and Marks

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.

CE UL cULus CSA