

EASY 230V 17A

	Max. output current for 1 s (Arms)	Rated output current (Arms)	Power losses at rated current (W)	Rated input current (Arms)	Maximum protection line circuit fuses	Mains short-circuit power
EASY	17	4	30	7	20 A	5 kA
Available cooling version	Natural convection					
Mains operated power supply voltage ⁽¹⁾	110 to 230 Vac +/- 10% single-phase 50 - 60 Hz Grounded neutral system with balanced phase to ground voltage should be preferred. For ungrounded neutral system, please contact CMZ Sistemi Elettronici technical support.					
Undervoltage threshold (default value) ⁽¹⁾	100 Vdc					
Braking threshold (default value) ⁽¹⁾	390 Vdc					
Overvoltage threshold (default value) ⁽¹⁾	430 Vdc					
EMC filter on the mains power supply	Fully integrated in the drive					
Motor phase-to-phase output voltage	95 % of mains voltage					
Integrated braking resistor	Not present					
External braking resistor	Minimum external resistor: 50 Ω CMZ Sistemi Elettronici ordering code: dp 50/200					
Minimum phase-to-phase inductance	1 mH					
Galvanic isolated auxiliary supply voltage	24 Vdc +/-15% - 300 mA (without digital outputs load)					
EMC filter on auxiliary supply	Integrated in the drive					


⁽¹⁾ These values correspond to the default configuration of the drive. For lower operating voltage, see Appendix "Low operating voltage".

EASY drive CONNECTIONS

MOTORS CONNECTOR: RESOLVER

Signal	SMB/MB series connectors			MMB series Connector	MMTC Connector
	Mil	Inter-connection	Clip Box	Inter-connection	Inter-connection
SIN +	F	2	6	1	6
SIN -	E	1	5	6	5
COS +	D	11	4	2	12
COS -	C	12	3	3	11
EXCT +	A	10	1	7	8
EXCT -	B	7	2	11	7
PTC	K	8	7	9	(+)16
PTC	J	9	8	10	(-)17
Shield	G/H	4	N.C.	8	10

MOTORS CONNECTOR: POWER SUPPLY

Signal	SMB/MB series Connectors			MMB series connector	MMTC Connector
	Mil	Inter-connection	Clip Box	Inter-connection	Inter-connection
U	A	1	A	1	1
V	B	2	B	3	4
W	C	6	C	4	3
Brake+ 24V	G	4	9*	C	A
Brake -	F	5	10*	D	B
Ground	D/E	3	D		2

* connected pin in the resolver clip box.

X1 CONNECTOR: RESOLVER (Sub D 15 pins female)

For transmitter resolver input

Pin	Symbol	I/O	Description
12	TC (thermal sensor)	I	The valid measurement range is between 100 Ω and 44 kΩ
13	TC (thermal sensor)	I	
2	COS +	I	Resolver signal
10	COS -	I	Resolver signal
11	SIN +	I	Resolver signal
3	SIN -	I	Resolver signal
5	EXTC +	O	Resolver signal
4	EXTC -	O	Resolver signal
Others	Reserved		

For incremental TTL & HES encoder input

Pin	Symbol	I/O	Description
9	Z/ marker pulse	I	Differential input of the encoder marker pulse Z/
1	Z marker pulse	I	Differential input of the encoder marker pulse Z
2	A/ channel	I	Differential input of the encoder channel A/
10	A channel	I	Differential input of the encoder channel A
11	B/ channel	I	Differential input of the encoder channel B/
3	B channel	I	Differential input of the encoder channel B
7	+5 V	O	Encoder supply voltage (max. current = 300 mA)
8	GND	O	Encoder supply GND
6	HALL U	I	Hall sensor input signal phase U
14	HALL V	I	Hall sensor input signal phase V
15	HALL W	I	Hall sensor input signal phase W
12	TC-	I	Motor thermal sensor input. The valid measurement range is between 100 Ω and 44 kΩ.
13	TC+	I	
Others	Reserved		

X2 CONNECTOR: INPUTS-OUTPUTS (Sub D 15 pins male)

Pin	Symbol	I/O	Description
1	IN1	I	All input are referred to the GND Vin voltage = 18V < Vin < 27 V Input impedance Zin: 10 kOhms
2	IN2	I	
3	IN3	I	
4	IN4 (STO – Enable) ⁽²⁾	I	
15	(Differential encoder output Marker) OUT_TA+	O	Differential encoder outputs Signals directly provided by the TTL encoder.
8	(Differential encoder output Marker) OUT_TA-	O	
14	(Differential encoder output channel) OUT_TB+	O	
7	(Differential encoder output channel) OUT_TB-	O	
13	(Differential encoder output channel) OUT_TZ+	O	
6	(Differential encoder output channel) OUT_TZ-	O	
9	OUT1	O	"high side" logic outputs 24 V / 500 mA
10	OUT2	O	
11	GND	O	
12	+VIN AN1	I	Analog input nr. 1
5	-VIN AN1	I	Differential input +/-10 V ⁽³⁾

⁽²⁾ This input must be connected

⁽³⁾ For a non-differential input signal, ANA1- must be connected to GND on the drive side.

X3 CONNECTOR: 24Vdc AUXILIARY POWER SUPPLY

Pin	Symbol	I/O	Function	Description
1	24V	I	Mains isolated 24 V _{DC} auxiliary power supply 0 V input referenced to the GND potential on the drive housing	24 V _{DC} supply: +/- 15% Consumption: 300 mA without digital output loads
2	0V = GND	I		

X4 CONNECTOR: POWER CONNECTORS**MAINS, MOTOR, BRAKING RESISTOR (10 pin male)**

Pin	Symbol	I/O	Function	Description
1	U	O	Motor phase U	Shielded motor cable: PE connection on the bottom plate, 360° shield connection.
2	V	O	Motor phase V	
3	W	O	Motor phase W	
4	DC-	I/O	DC bus negative voltage output	For the DC bus paralleling in multi-axis applications
5	DC+	I/O	DC bus positive voltage output	
6	DR	O	Braking transistor output	Minimum braking resistor value = 50 Ω Connect the braking resistor between pins 5 and 6
7	L1	I	230 Vac single-phase mains input supply	230 Vac single-phase +10% -15% Fully integrated EMC mains filter.
8	L2	I		

IMPORTANT

Motor and brake cables must be shielded.

The 360° shield connection must be ensured by metallic collars and connected to the ground reference potential.

The GND wire of the motor cable MUST be connected to the housing of the drive by mean of a Faston terminal.

See section 4.5 of the Installation manual for grounding and shielding precautions.

For the other specifications, see **EASY Installation Guide** and **EASY User Guide**.

X5 CONNECTOR: SERIAL LINK RS-232 port (Sub D 9 pins male connector)

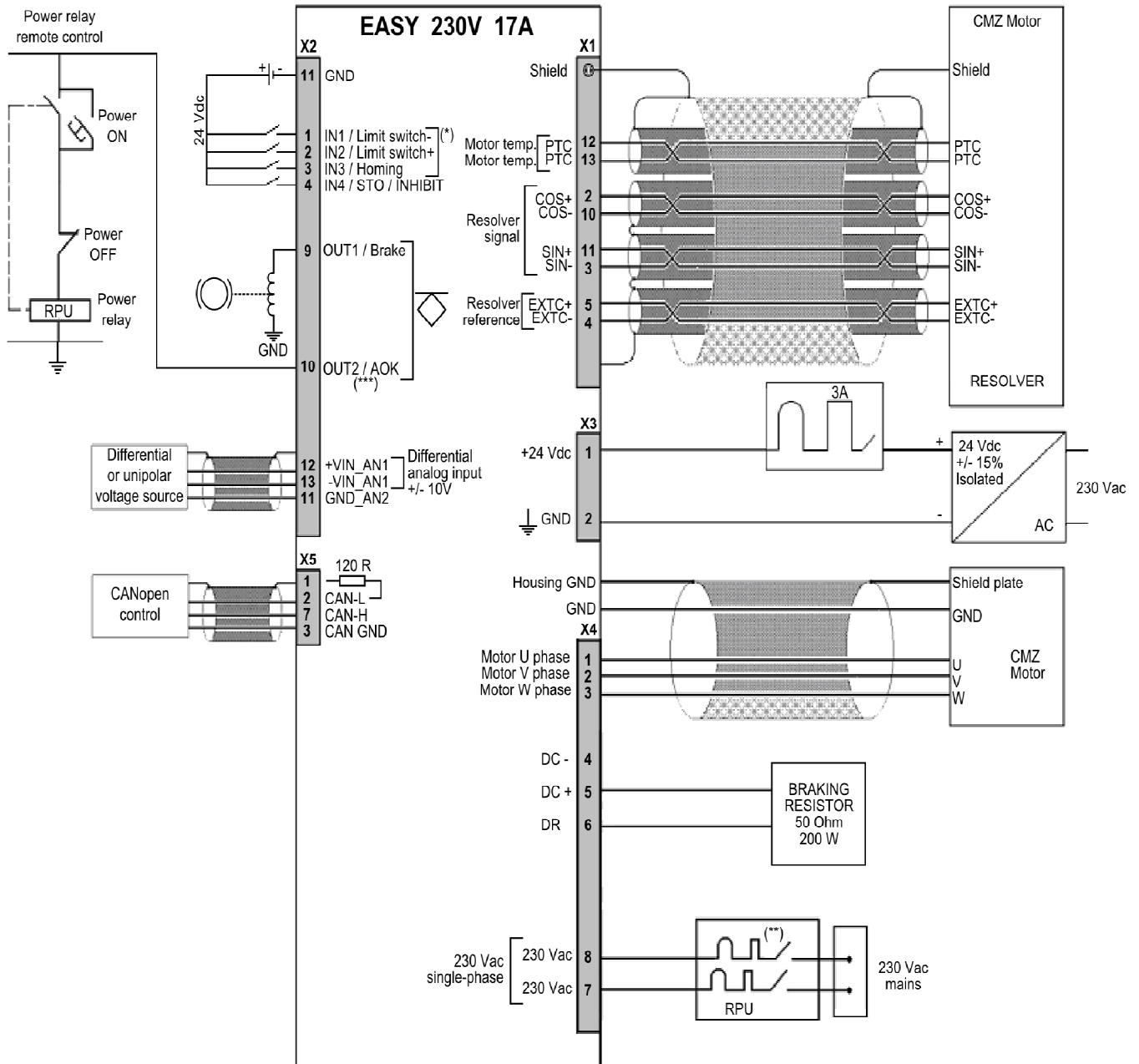
Pin	Symbol	Description
1	Termination resistor	Connect X5.1 to X5.7 to enable the termination resistor
2	CAN-L	Line CAN-L (dominant low)
3	GND	GND signal for CAN communication
4	TXD	Transmit data RS-232
5	RS232 GND	Ground signal for RS-232 360° shield connection is highly recommended
6		Reserved
7	CAN-H	Line CAN-H (dominant high)
8	RXD	Receive data RS-232
9		Reserved

Default parameters for the CANopen bus are:
- Transmission speed of 1Mb/s
- Address set at 1

(Please see

Gem Drive Studio → Tools → Node-ID Setting and
Gem Drive Studio → Tools → CAN speed setting)

EASY drive CONNECTION DIAGRAM



(*) Input default configuration

(**) Curve D circuit-breaker
 $I_{1s} = 10 \times I_n$

(***) See sections 4.1.2 and 4.1.3 of the Installation guide

Use only copper conductors for the wiring terminations.
 The torque values of the wiring terminations must comply with the certified block terminal.

NOTE: The 24V and power supply protection on source side must be ensured by the user