Series DRWS drives for the control of electric actuation

Drives for Stepper motors, one size/version

- Completely digital drives
- PLC function programmable with the Camozzi QSet configuration software
- Control of speed, position and torque
- 32 positions programmable through the QSet
- Self-compensation of errors

The Series DRWS Camozzi drives have been designed to control the movement of the Camozzi electromechanical actuators (Series 5E and Series 6E).

The DRWS drives, compact and optimized in one size, have been especially studied for all Camozzi Stepper motors. They are capable of controlling Stepper motors with 2 phases and micro stepping feed. They are able to calculate the normal resonance frequency of the motors and optimize their driving. Moreover, they can reduce natural friction to a minimum during very slow rollings of the Stepper motor, giving a continuous and very fluid (smooth effect) movement at any speed thanks to the Microstepping technique, thus achieving a 1/64 STEP resolution.

Another function that has been integrated into the drives reduces vibrations to a minimum during rotation inversion or during sudden changes in speed. At initial ignition/ switching on, the DRWS drives are able to calculate the inductance, the electrical resistance of the motor connected and the inertia of the motor, and saves these parameters inside in order to better manage the driving of the motors.

GENERAL CHARACTERISTICS

Mod. DRWS-A05-8-D-0-A	
Current	0.1 - 5 A
Working voltage	24 - 48 V DC
Amplifier type	Dual H-Bridge, 4 Quadrants
Current control	4 state PWM at 20 KHz
Protection	Overvoltage, undervoltage, overtemperature, internal motor shorts (phase-to-phase, phase-to-ground)
Idle current	Automatic idle current reduction to reduce heat after motor stops moving, software selectable current and idle delay
Microstep emulation	Performs high resolution stepping by synthesizing fine microsteps from coarse steps. Reduces jerk and extraneous system resonances.
Anti-resonance	Raises the system damping ratio to eliminate midrange instability and allow stable operation throughout the speed range and improves settling time.
Torque ripple smoothing	Allows for fine adjustment of phase current waveform harmonic content to reduce low-speed torque ripple in the range of 0.25 to 1.5 rps
Non-volatile storage	Configurations are saved in FLASH memory on-board the DSP
Humidity	90% non-condensing
Ambient temperature	0 - 40°C
Mass	Approx. 0.2 Kg
I/O specifications	- 8 Inputs: optically isolated, 24 V DC - Outputs: optically isolated, 24 V DC max, 10 mA max - 1 Output brake: optically isolated - Analog Input: 0-5 V DC, 12 bit resolution (4096 points)

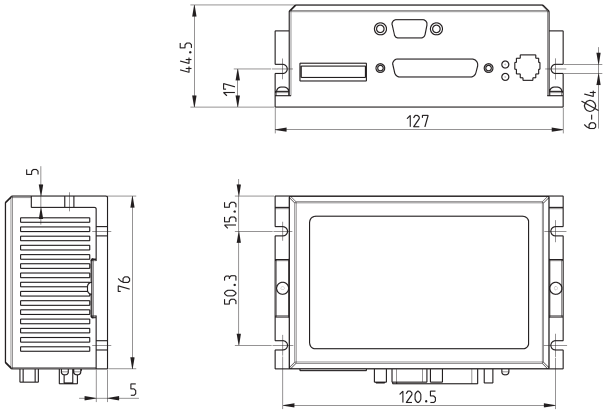
CODING EXAMPLE

DRWS	-	A05	-	8	-	D	-	0	-	A

DRWS	SERIES
A05	MAX SIZE A: A05 = 5 A
8	SUPPLY: 8 = 24V - 48V DC
D	COMMUNICATION: D = Digital I/O and Analog
0	FEEDBACK: 0 = no Feedback
A	VERSIONS: A = Standard

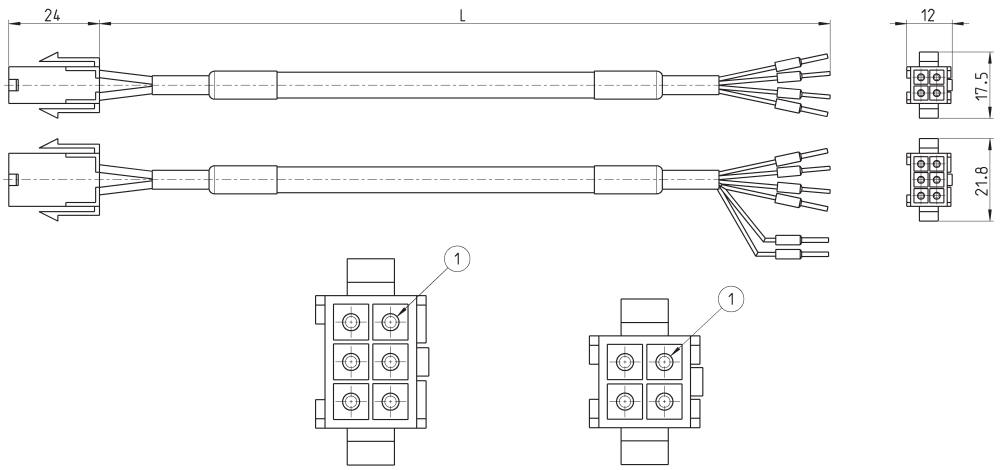
Drive Mod. DRWS-A05-8-D-0-A

Drive for the Camozzi Stepper motors



Mod.	max current	Supply
DRWS-A05-8-D-0-A	5 A	48 V DC

Cables for Stepper (MTS) motors



Mod.	Brake	Pins	L = cable (m)
EC-200422-B100	-	4	1
EC-200422-B300	-	4	3
EC-200422-B500	-	4	5
EC-200422-BA00	-	4	10
EC-200622-B300	✖	6	3
EC-200622-B500	✖	6	5
EC-200622-BA00	✖	6	10