

Features

- Extremely compact
- Designed for standard rack 19" wide
- Designed for multi-axis use
- Housings for up to 4 Smart Controllers
- Integrated EMI filter

Description

Unlike many other motion controllers, the **Smart Controller** processor controls only one single motor, therefore it is able to achieve much tighter loop control, resulting in zero error. The controller and power electronics are physically in one card module. The compact size and low unit cost of the **Smart Controller** ensures that even when control of multi-axes systems is required, the **Smart Controller** remains a space efficient and economical solution. Independent card modules are simply linked together, providing flexibility and maximum upgrade potential. To complete the rugged design, CWDT optionally provides a sealed modular enclosure with up to four **Smart Controllers** and an integrated EMI Filter.

Specification

Features

Using flexibility and robustness as its calling card, the Smart Controller is extremely compact, designed for installation into a standard rack 19" wide (3HE rack). The single axis controller, including the power electronics for 28V and 2000W motor power, uses only 3" (76mm) in width. The configuration and commissioning of each unit is carried out by using a proprietary Windows-based software tool called "Smart-View", an evolution of CWDT's widely-fielded DACS-View software. Designed for multi-axes use, the customer can link as many units together as the bus traffic (CAN or RS422) will allow.

As an option, CWDT can also provide modular, sealed enclosures with an integrated EMI filter for up to four Smart Controllers. These housings are designed for harsh environmental applications and fulfil MIL-STD 810E. Each enclosure offers a vast assortment of possible mounting options. All connectors are type D38999 and are designed for low EMI noise and rugged connections.

Applications

The Smart Controller addresses increasing market demand for multi-axes use. There are already requests to use a 4-axes control unit to manipulate ammunition handling systems. Furthermore, light turret drive systems and control of many types of actuators (missile launchers, telescope devices, etc.) are potential applications.



Innovation In Motion.

**CURTISS
WRIGHT** Controls
Engineered Systems

Antriebstechnik • Drive Technology

Curtiss-Wright Antriebstechnik GmbH
Badstrasse 5
CH-8212 Neuhausen am Rhf./Switzerland
Telefon: +41 (0)52 674 84 84
Telefax: +41 (0)52 674 66 09
email: info@cwat.ch
Internet: www.cwat.ch

SMART CONTROLLER 2000



Type	SC 2000	
Electrical data	Supply voltage	18...32 VDC according MIL-STD 1275-B
	Maximum motor power output	2000W
	Maximum output current (rms)	80A
	Continuous output current (rms)	35A
	Ambient temperature range <i>full performance</i> <i>reduced performance</i>	- 40 + 50 °C + 51 + 71 °C
	Interference immunity with housing and EMI filter	MIL-STD 461 F
	Efficiency	up to 94%
Dimensions	Smart Controller insert module	Europe Format 3" (L x W x H) 173 x 76 x 129 mm => volume 1.7 litre Weight approx. 460g
	Enclosure (rugged construction) 2 axis controller with EMI Filter	(L x W x H) 239 x 275 x 166 mm => volume 10.9 litre
Motor Feedback (MFB)	Resolver	Sin/Cos 12 Bit resolution Ref Configurable reference signal: 5 Vrms max. 5,10 or 20kHz
Interfaces	Field bus	CANopen
	System Setup Service Interface	System configuration via PC based SMARTview RS 485 asynchron, full duplex 468k Baud
	Controller	4 analogue inputs: ± 10 VDC, resolution 12 Bit 4 digital inputs: 0 / 18...32 VDC; 10mA; optoisolator 2 digital outputs: 0 / 18...32 VDC; 30mA; optoisolator, type: open collector Brake driver: 18...32 VDC, 5A max.
Control Loops	Velocity Loop	Adjustable PID controller
	Current Loop	PID controller Sinusoidal current control reduces torque ripple
Build in test (BIT)	Temperature (NTC 5kOhm)	Temp. sensor in motor and power electronics
	Overload	✓
	Voltage protection (U<18V ; U>32V)	✓
Motor	Permanent Magnet Synchron Motor (PMSM)	✓
	Maximum pole pairs: 6	✓

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