

# INTEGRAL ACTUATOR MODULE WITH CURRENT SENSING

## E23150 – QUATTRO ACTUATOR

**E23150 SERIES**  
MULTIPLE ACTUATORS

### FUNCTIONAL DESCRIPTION

Introducing the NEW four (4) channels integral actuator module (*iAM*) that allows to control four (4) motors, either one (1) for the elevator and another to adjust the wheelchair' speed. The *iAM* multi-light has unique features: the possibility to operate in "Stand Alone Unit" mode with integrated cables, to install and control the LED (sidelights), to protect against heat and to variably adjust the chair speed in an high mode.

Packaged in a small metal case the *iAM-quattro* is a smart and economical solution for wheelchair seating drive.

### SPECIFICATIONS

- Microprocessor based electronic
- Integral Unit (with remote user and attendant control) DB9 connector
- Black Die Cast Aluminium Casing
- Custom connectors configuration
- Programmable SoftStart / SoftStop Accel-Decel rate
- Programmable Current Limit
- Thermally Protected (resettable fuse)
- Steel Inserts (M5,10-32)
- Supply: ..... 24V<sub>nom</sub> (16V-32V)
- Very Low Standby Current:..... < 6.6mA
- Drive Lockout (DLO) and Half Speed (HS) with closed loop (25 Ω) or ground output with jumper
- HS output with variable serial potentiometer (500KΩ)
- 2 LEDs: DLO = red; HS = yellow



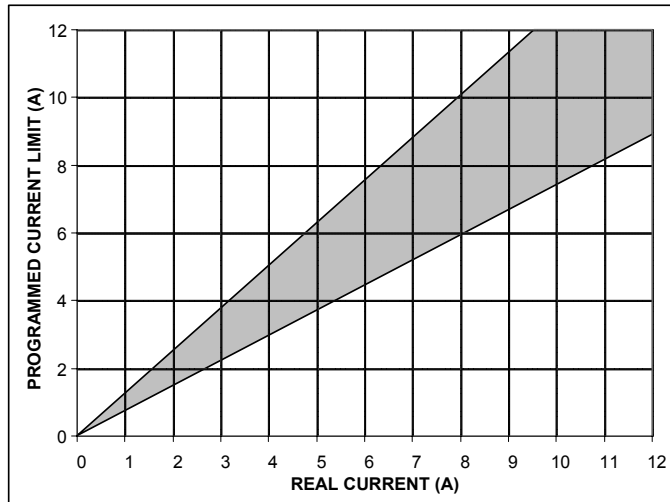
DIMENSIONS	
DIE CAST ALUMINIUM BLACK CASING	
Width	4.67"
Length	3.68"
Height	1.18"
Quattro harness length	36"
DB9 harness length	2.6'

E23150 SERIES THERMAL PROTECTION*	
I (AMPS)	TIME (SEC)
4.0	∞
5.3	∞
6.0	∞
7,0	1800**
8.1	300
9.0	250

\*time to reach thermal protection from 25degC  
\*\*estimated values

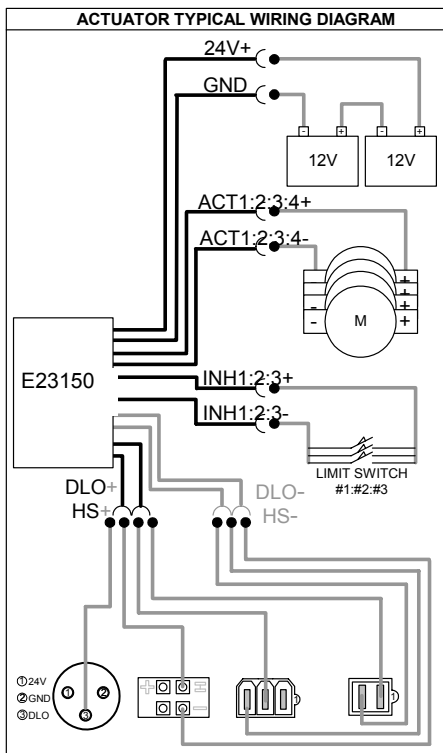
DB9 CONNECTION	
# PIN	FUNCTION
1	Forward joystick
2	Reverse joystick
3	Right joystick
4	Left joystick
5	HS LED (cathode)
6	DLO LED (cathode)
7	Not connected
8	Common joystick
9	GND LEDs (commun anodes)

## CURRENT SENSING VALUE VS REAL CURRENT VALUE



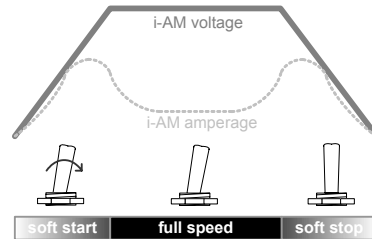
(TESTED BETWEEN 20°C AND 65°C)

NOTE : When using the current sensing feature, it is important to test the desired temperature and load range to ensure proper detection in all conditions.

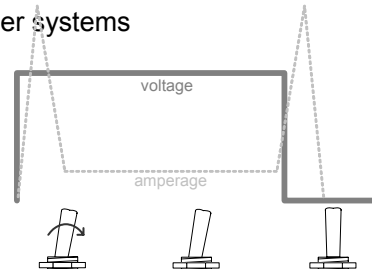


## SOFT START - SOFT STOP FEATURES

















i-AM soft start and soft stop minimize current spikes on the actuator and provide a smooth movement on the seating system.



Other systems



**JUMPERS CONFIGURATION (BOARD A&B)**

	JUMPERS				
	A	B	C	D	
PROGRAM 0		ON	ON	ON	ON
PROGRAM 1		ON	ON	ON	OFF
PROGRAM 2		ON	ON	OFF	ON
PROGRAM 3		ON	ON	OFF	OFF
PROGRAM 4		ON	OFF	ON	ON
PROGRAM 5		ON	OFF	ON	OFF
PROGRAM 6		ON	OFF	OFF	ON
PROGRAM 7		ON	OFF	OFF	OFF
PROGRAM 8		OFF	ON	ON	ON
PROGRAM 9		OFF	ON	ON	OFF
PROGRAM 10		OFF	ON	OFF	ON
PROGRAM 11		OFF	ON	OFF	OFF
PROGRAM 12		OFF	OFF	ON	ON
PROGRAM 13		OFF	OFF	ON	OFF
PROGRAM 14		OFF	OFF	OFF	ON
PROGRAM 15		OFF	OFF	OFF	OFF

DLO / HS (JUMPERS)	
JUMPER ON PCB	FUNCTIONS
E <input type="checkbox"/> (CLOSE)	Permanent GND on DLO-
E <input type="checkbox"/> (OPEN)	DLO close loop function
F <input type="checkbox"/> (CLOSE)	Permanent GND on HS-
F <input type="checkbox"/> (OPEN)	HS close loop function

HS POT. ADJUSTMENT	
Clock wise	Increase
Under clock wise	Decrease

**SEATING SYSTEM CONFIG.**

<b>TILT, ELEV, REC, LEGS</b>																
<b>BOARD A</b>																
INH1: ON								INH2: ON								
ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	
Tilt	Elev	Rec	Legs	Tilt	Elev	Rec	Legs	Tilt	Elev	Rec	Legs	Tilt	Elev	Rec	Legs	
R/R	R/S	R/R	R/R	S/R	R/R	R/R	R/R	S/R	R/R	S/R	R/R	R/R	R/R	R/R	R/R	
DLO								HS								
DLO; HS																
PROGRAM 0	NO							NC							NO	
PROGRAM 1	NC							NC							NC	
PROGRAM 2	NO							NC							NC	
PROGRAM 3	NC							NC							NO	

<b>LEGEND</b>	
NO	Normally Open
NC	Normally Close
R/R	Run/Run
S/R	Stop/Run
DLO	Drive lock out
HS	Half Speed

<b>TILT, REC, L LEG, R LEG</b>																
<b>BOARD A</b>								<b>BOARD B</b>								
INH1: ON								INH2: ON								
ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	
Tilt	REC	L Leg	R Leg	Tilt	REC	L Leg	R Leg	Tilt	REC	L Leg	R Leg	Tilt	REC	L Leg	R Leg	
R/R	R/R	R/R	R/R	S/R	R/S	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	
DLO								DLO								
PROGRAM 4	NC							NC								
PROGRAM 5	NO							NC								

<b>TILT, ELEV, L LEG, R LEG</b>																
<b>BOARD A</b>								<b>BOARD B</b>								
INH1: ON								INH2: ON								
ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	
Tilt	Elev	L Leg	R Leg	Tilt	Elev	L Leg	R Leg	Tilt	Elev	L Leg	R Leg	Tilt	Elev	L Leg	R Leg	
R/R	R/S	R/R	R/R	S/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	
DLO								HS								
PROGRAM 6	NO							NC								
PROGRAM 7	NC							NC								

<b>REC, ELEV, R LEG, L LEG</b>																
<b>BOARD A</b>								<b>BOARD B</b>								
INH 1: ON								INH2: ON								
ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	ACT 1	ACT 2	ACT 3	ACT 4	
Rec	Elev	L Leg	R Leg	Rec	Elev	L Leg	R Leg	Rec	Elev	L Leg	R Leg	Rec	Elev	L Leg	R Leg	
S/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	R/R	
DLO								HS								
PROGRAM 8	NO							NC								
PROGRAM 9	NC							NC								