

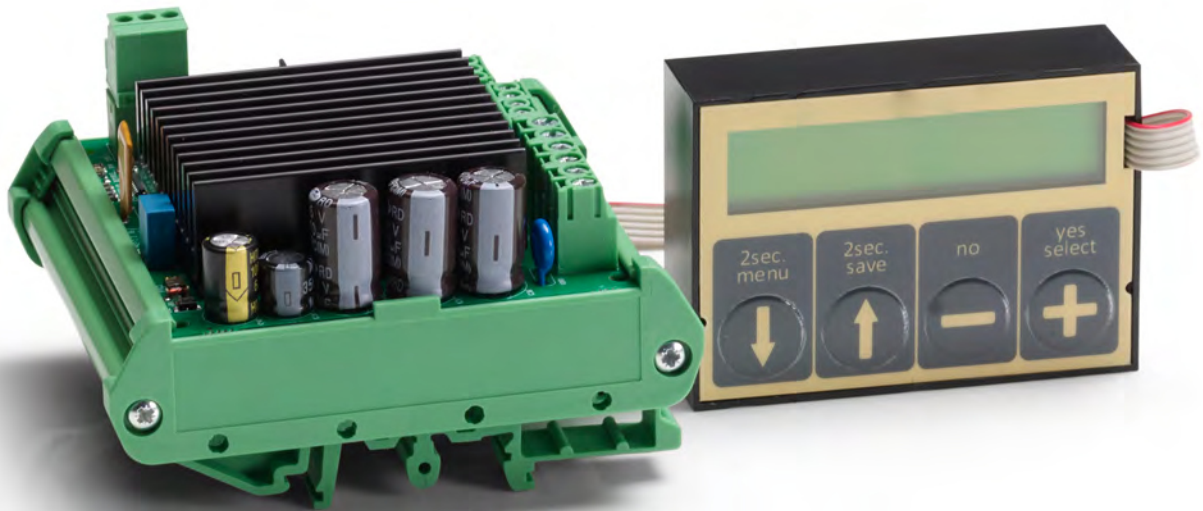


AS26A Synchronised Controller

The AS26A is used to drive two actuators in parallel (or synchronised).



AS26A Synchronised Controller



Description

The AS26A is used to drive two actuators in parallel (or synchronised). The synchronisation is done by comparing the pulse feedback signals from each actuator and then making fine adjustment to the actuators speed to ensure they stay together.

The controller will maintain the synchronisation even when the load on each actuator is different. When the imbalance becomes too large the controller will stop both actuators to prevent excessive mechanical stress or damage.

The AS26A performs an automatic current stop if the motors exceed the adjustable current limit.

Current limit and other parameters can be set with the Digital Interface.

Key Features

- Supply 10-30V DC
- Digital parameter setting
- 2 x 10A constant
- 2 x 20A (25% duty)
- DIN rail mount included
- Start and Stop ramp speed adjustment

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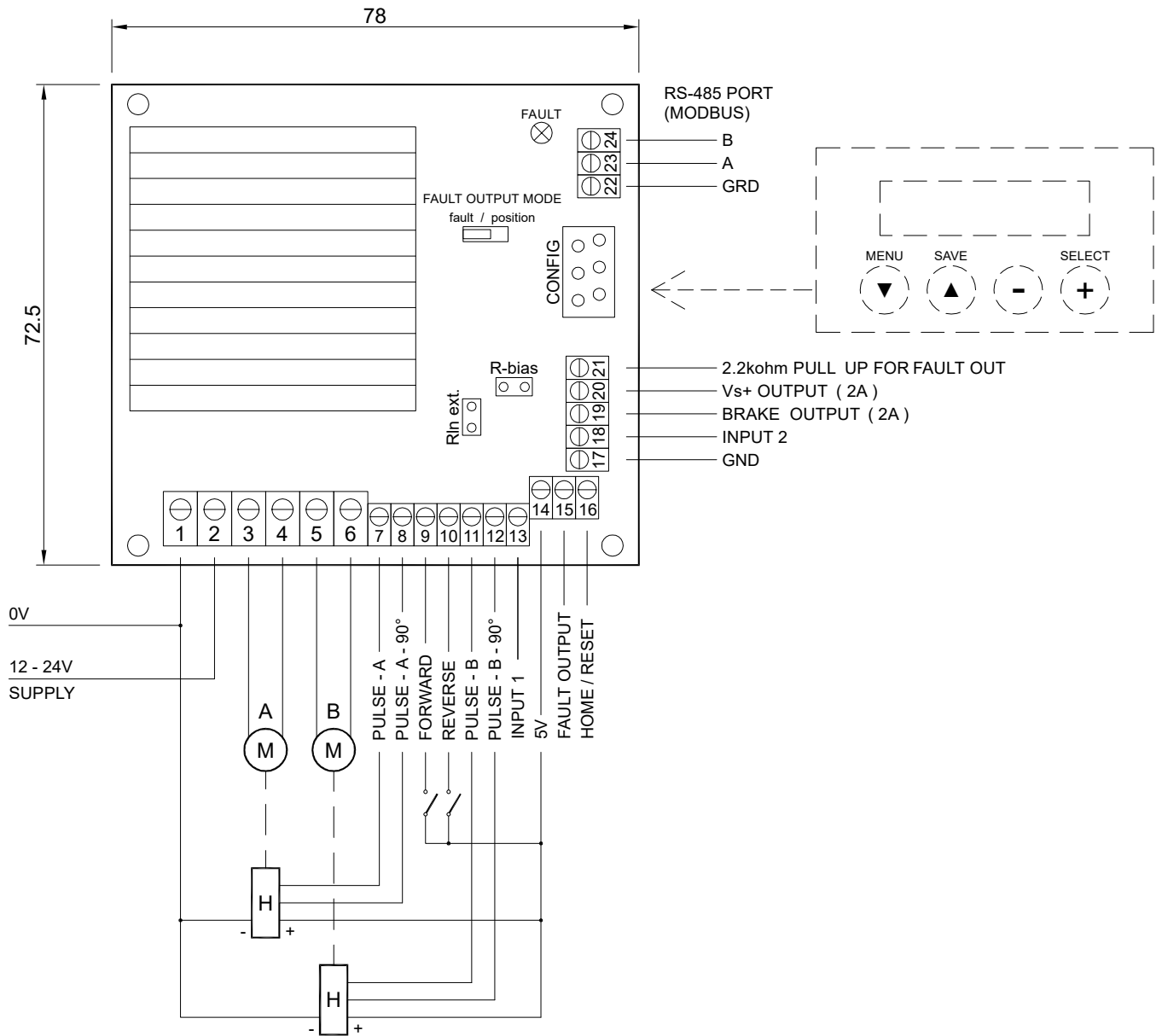
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AS26A

Connection Diagram



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AS26A Technical Details

Pulse Feedback

The pulse inputs can work with either, positive or, negative feedback signals.

When the pulse logic switch is set to the negative position the inputs are internally pulled to 5V with a 10kOhm resistor. When the pulse logic switch is set to the positive position the inputs are pulled to 0V.

The controller counts pulse edges so the count value displayed will be double compared to the actual number of pulses generated.

Fault Output

The fault output is activated if any one of the following conditions occurs.

- Difference limit exceeded
- Pulses have disappeared
- Temperature is too high
- Current limit is exceeded

Fault output is NPN open collector max. 50mA and is pulled down on alarm.

Input Signals

Signal level	High 4-30VDC
	Low 0-1VDC



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AS26A Technical Details

Connections

Supply voltage must be filtered DC of 12-35V, and ripple should be less than 30% at full load. CAUTION ! Wrong polarity can damage the unit.

CAUTION ! Unit doesn't have an internal fuse, so an external fuse should be added if fuse required.

Values that can be monitored from the Digital Interface

- | | |
|---|--|
| - 1/8 Fault Code | - 5/8 Motor 'A' pulse count |
| - 2/8 Motor 'A' Current 0.1A/ digit | - 6/8 Motor 'B' pulse count |
| - 3/8 Motor 'B' Current 0.1A/ digit | - 7/8 Operating voltage 0.075A/ digit |
| - 4/8 Current limit setting 0.1 A/digit | - 8/8 Safety Edge input voltage 0.05V/ digit |

LED Fault Codes. LED will flash to indicate fault condition.

Homing in Progress

Homing failed or position corrupted
Over Current
No Pulse detected
Motor pulse difference to large
Over voltage
Safety edge failure
Bus time-out

Continuous Light

1 blink
2 blinks
3 blinks
4 blinks
5 blinks
6 blinks
7 blinks

Home Routine

The home routine is a calibration cycle for balancing the system. Home routine can be started by giving a 'forward' and 'backward' command at the same time for 3 seconds or with a signal to the 'home' Input (Terminal 16) for 5 seconds.

The home routine can be interrupted at any time with a new signal to either 'forwards' or 'backwards' inputs or a signal to the 'stop' input. When the home routine starts both actuators start to run in the same direction and will run until either, the current limit has been exceeded or, the pulses stop because the actuators have reached their limit switches.

During the home routine the fault LED will be continuously on. When both actuators have also stopped and the fault LED has gone off the home routine is complete and the pulse counters have been reset to zero. If there is a need to change the home routine direction this can be done by swapping the motor wires. It would also be necessary to swap the hall sensor input wires.

Auto Balance

When auto balance is enabled it automatically corrects the difference between the pulse count from each actuator every time the system is driven to the home position. The point at which the auto balance is triggered is related to the home position and can be adjusted. The auto balance trigger point is defined by the number of pulses before the home position and can be set using parameter 12.

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Digital Interface Programming

No	Parameter	Options	Default	Description
1	Motor Output regulation	10-30	0	Maintains motor supply voltage even if input voltage varies
2	Over Voltage limit	1 5-40	35	Controller shuts down when over voltage is reached
3	Motor output Frequency	1 -2	1	PWM frequency, silent when set to 216kHz
4	Hall Sensor type	1-2	2	1=PNP, 2=NPN
5	Control Mode	1-3	1	1 = Continual push required, 2= One push operation, stops with opposite direction command 3= One push operation, changes direction without stop in opposite direction
6	Input1 (Pin13) function options	1 -4	1	1 = Stop (disable) 2= Change to speed 2 3= End Limit switch forward direction, 4= End Limit switch forward direction, reverse logic 5= Disable
7	Input2 (Pin 18) function options	1-6	2	1 = Safety switch input with opening contact (N.C.) 2= Safety switch input with closing contact (N.O.) 3= Safety switch input with (N.O.) contact and line monitor 4= Speed 2 activation 5= End Limit switch reverse direction 6= End limit switch reverse direction, reverse logic 7= Disable
8	Brake Output	0-2	0	0= Activated when over voltage is detected 1 = Activated when driving, use to release mechanical brake 2= Activated at either end of stroke (with respect to pulse count)
9	Running Speed	20-100%	100	Running speed can be limited to a percentage of normal running speed
10	Home Speed / Speed 2	20-100%	60	Home run speed set to a percentage of normal running speed
11	Current Limit forward	1-250	50	Current limit when driving forward direction (0.1-25A)
12	Current Limit reverse	1-250	50	Current limit when driving reverse direction (0.1 -25A)
13	Start kick	0-250	1	0= Start kick disabled 1 = Start kick after home run 2-250 = Start kick duration in milliseconds also after current trip
14	Fault Output (Pin 15) function options	1 -4	1	Do not change- refer to IDGB
15	Start Ramp	1-25	10	Time to accelerate to full speed 1-25 = 0.1-2.5s
16	Stop Ramp	1-25	2	Time to decelerate to stop 1-25 = 0.1-2.5s
17	Pulse Lost reaction time	1-100	50	Time to react to lost pulses 1-100 = 0.01 to 1 s
18	Safety reverse	0-30	0	Safety reverse drive time after obstacle detected 0 = not in use 1-10 = 1 to 10 seconds safety reverse when driving in either direction 11-20 = 1 to 10 seconds safety reverse when driving forwards 21-30 = 1 to 10 seconds safety reverse when driving reverse
19	Load compensation	0-255	0	Do not change- refer to IDGB
20	Synchronisation accuracy	1 -30	15	Defines how intensively the controller adjusts to maintain synchronisation. High value more aggressive
21	Reverse count limit	0-65000	40	Electronic home limit
22	Forward count limit	0-65000	1000	Electronic fully extended limit
23	Reverse limit advance	0-65000	200	Electronic position to start deceleration ramp, reverse direction
24	Forward limit advance	0-65000	200	Electronic position to start deceleration ramp, forward direction
25	Serial line configuration	1 -8	1	1 = 9600bps 8N1 5 = 1 9200bps 8N1 2 = 9600bps 8N2 6 = 1 9200bps 8N2 3 = 9600bps 8E1 7 = 1 9200bps 8E1 4 = 9600bps 8O1 8 = 1 9200bps 8O1
26	Modbus address	1-247	1	Modbus address 1-247
27	Not used			
28	Not used			

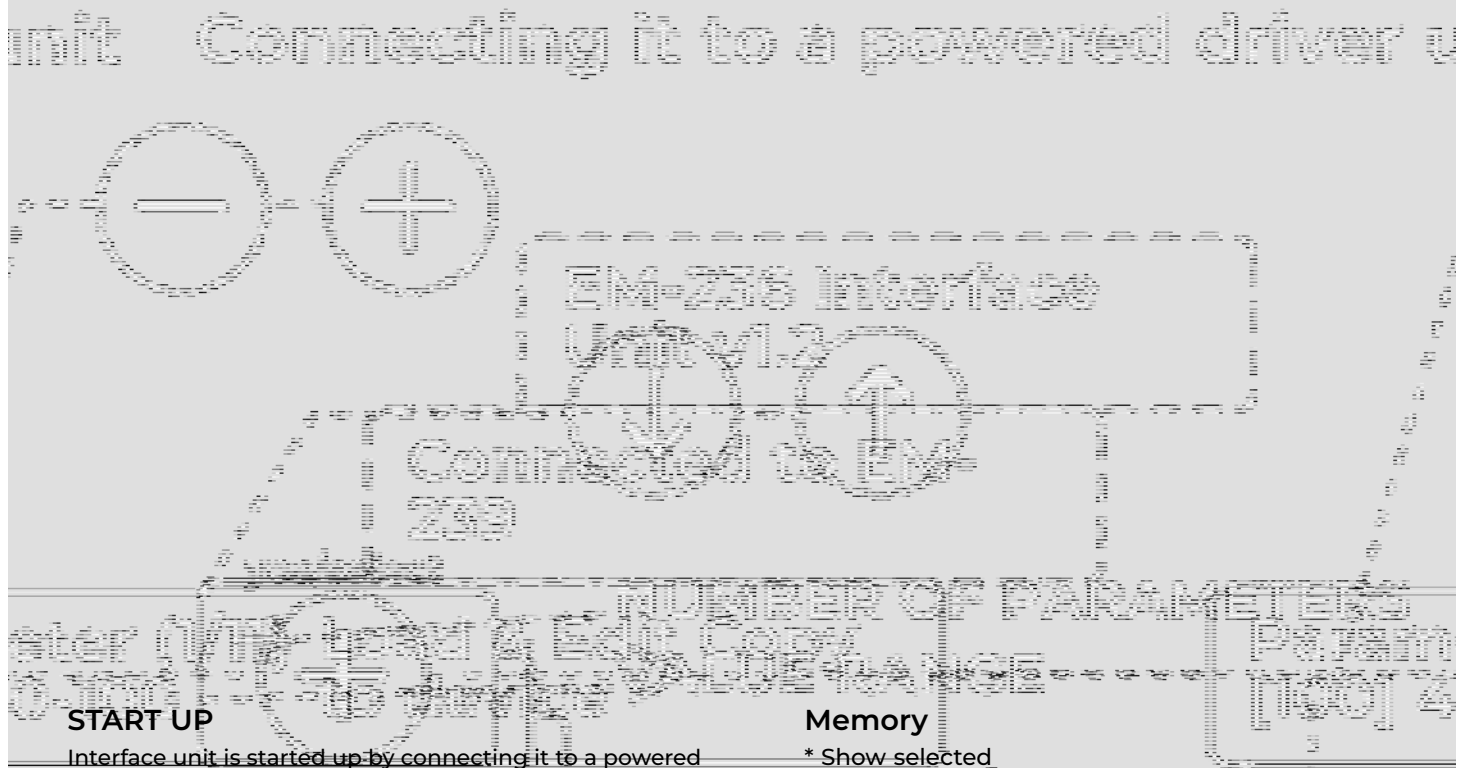
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Digital Interface Unit DIU



START UP

Interface unit is started up by connecting it to a powered driver unit

Load & Edit

This will pick up the parameters from the driver unit. Parameters will be displayed and you can scroll and edit those with EM-236. After editing a value, it will blink three times before it is valid.

NOTE. Edited parameter list is only in RAM until you save. After saving (pressing 2sec save button) new edited parameters will be sent to driver unit and stocked in to selected memory slots of the EM-236 Interface unit.

Copy to device

This command will send the parameter list in selected slot in to the driver unit.

Monitor values

This will enable user to monitor some dynamic values during the use of the driver. Monitor able values can be scrolled with arrow -buttons.

Memory

* Show selected

From here you can see the parameter list which is stored in the slot which is selected at the time.

First you get a message, which slot is selected and for what product the parameters are. Then you are displayed the parameters, which you can scroll trough, but not edit until those are saved.

*Select slot

Here you choose which one of the 5 memory slots is active. When you save, copy, or go to "Show selected", the operation is referred to the slot you have chosen here.

SAVING

In "Load & Edit" press "2sec save" -button.

The displayed parameters (edited or not) will be sent to the driver device and saved to the interface units active slot.

"Copy to device" will send the parameters that are in the interface units active slot to the driver device.

In all other situations, pressing "2sec save" -button will send the parameters from active slot to driver unit.

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View AS26A Synchronised Controller Online Visit:

<https://actuators-electric.co.uk>

Contact

Our specialist team are always ready to listen and help, please drop us an email or call to talk with the team.

Address.

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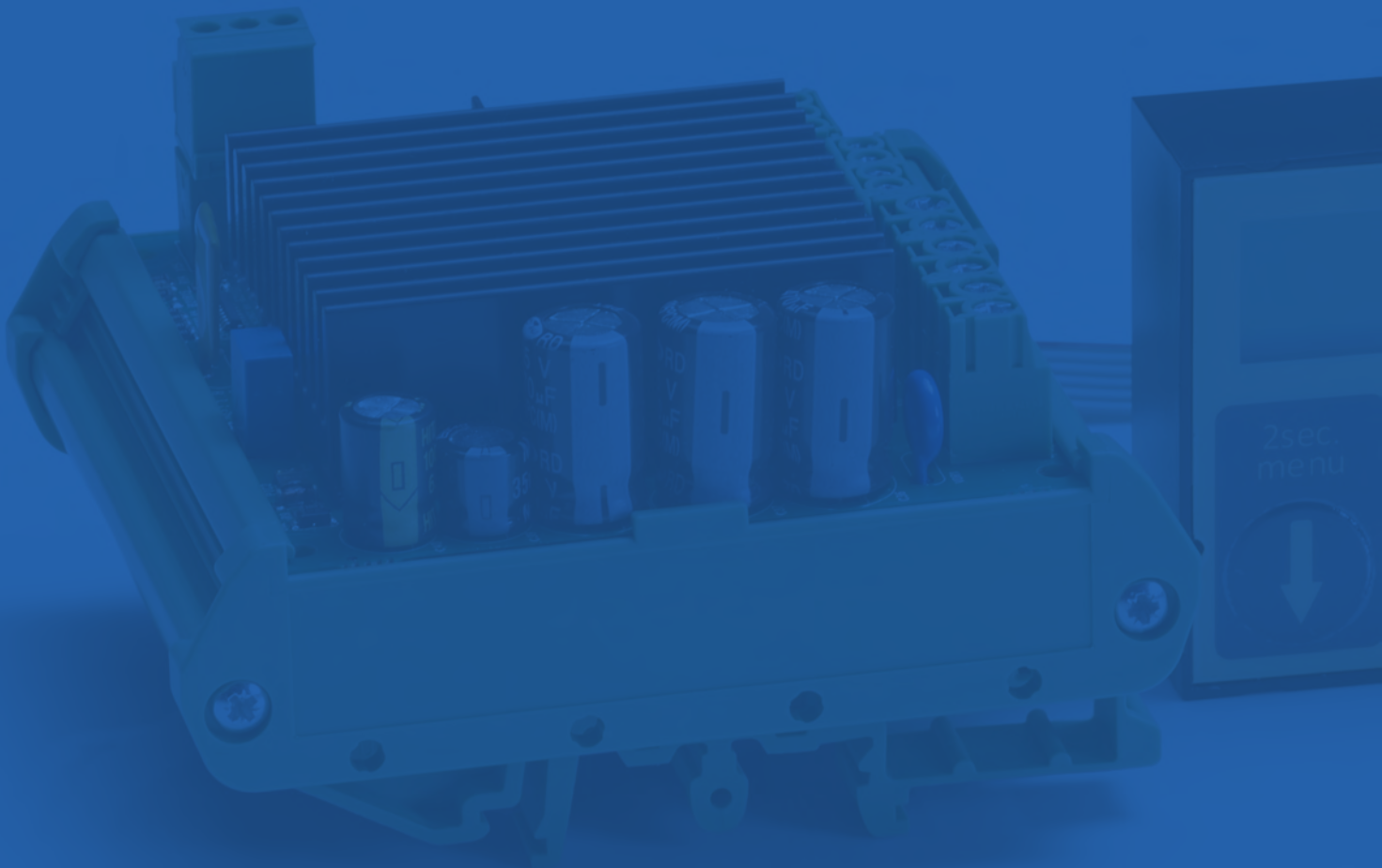
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