



Electrical Installation

Series 51 and 51-1 Motor

Electrohydraulic Two-Position Controls E1, E2, E7



Revision history*Table of revisions*

Date	Changed	Rev
August 2015	Converted to Danfoss layout	BA
April 2007	First edition	AA

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Literature references**S51 and 51-1 Electrohydraulic Two-Position Controls E1, E2, E7 literature references**

Literature title	Description	Literature number
<i>S51 and 51-1 Bent Axis Variable Displacement Motors Technical Information</i>	Complete product electrical and mechanical specifications	520L0440
<i>S51 L Proportional Controls Function Block User Manual</i>	Compliant function block set-up information	11022922

Latest version of technical literature

Danfoss product literature is online at: <http://powersolutions.danfoss.com/literature/>

Product overview

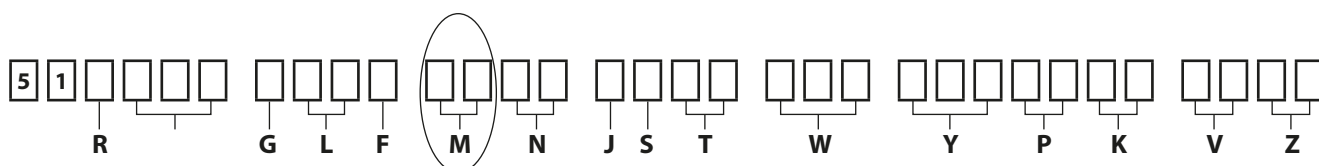
Product image

S51 and 51-1 Electrohydraulic Two-Position Controls E1, E2, E7

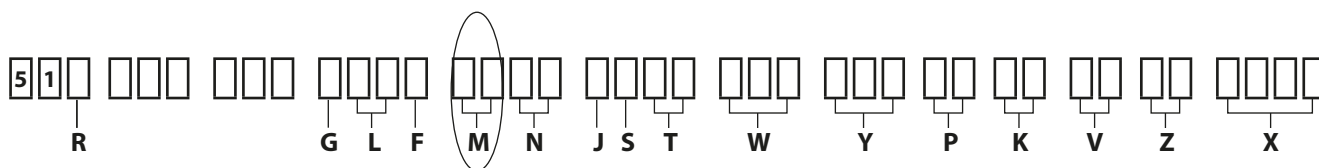


Nomenclature

S51 model code



S51-1 model code



Code M options

M	Description
E1	Electrohydraulic two-position control, 12 Vdc, DIN Connector
E2	Electrohydraulic two-position control, 24 Vdc, DIN Connector
E7*	Electrohydraulic two-position control, 12 Vdc, AMP Connector

* Available on S51-1 motor only.

Only certain control options for the S51 and S51-1 motor utilize the Electrohydraulic Two-Position Control. Please refer to the motor's nomenclature to determine if the motor is equipped with the proper option. The nomenclature can be found on the motor's nametag.

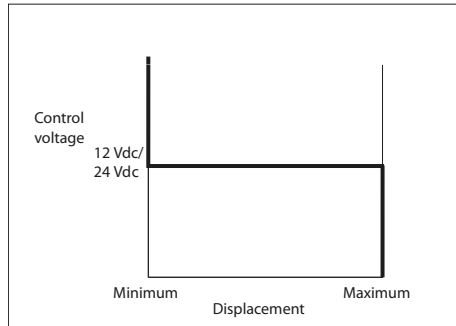
Product overview

Theory of operation

Displacement can be changed electrohydraulically under load from maximum displacement to minimum displacement and vice versa, by using a built-in solenoid valve.

- Solenoid off = maximum displacement
- Solenoid on = minimum displacement

Electrohydraulic two-position control operation



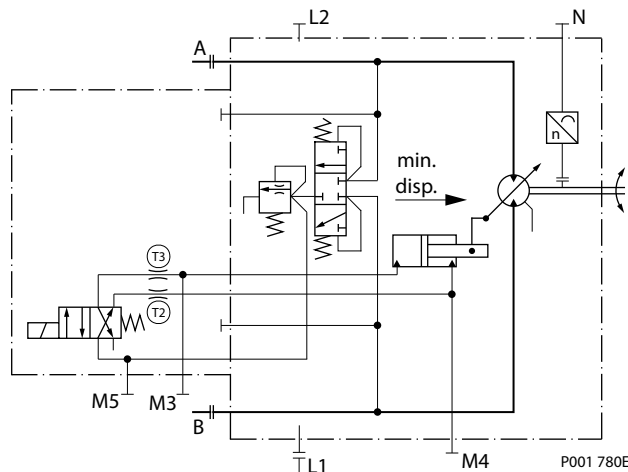
Warning

Unintended vehicle or machine movement hazard. The loss of hydrostatic drive line power, in any mode of operation (forward, neutral, or reverse) may cause the system to lose hydrostatic braking capacity. You must provide a braking system, redundant to the hydrostatic transmission, sufficient to stop and hold the vehicle or machine in the event of hydrostatic drive power loss.

Hydraulic schematics

Series 51-1 schematic

Circuit diagram – motor with EH two-position control E1B1, E2B1, E7B1



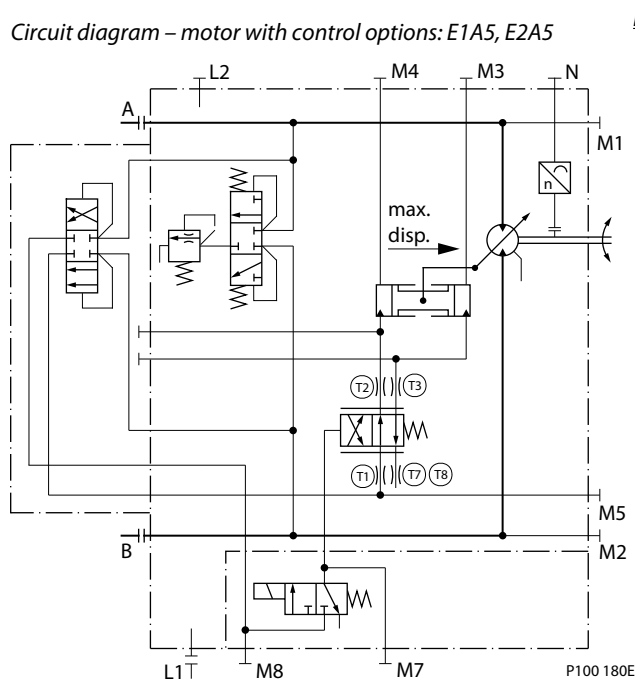
Ports:

- A, B** = Main pressure lines
- L1, L2** = Drain lines
- M3, M4** = Servo pressure
- M5** = Gauge port servo supply pressure internal
- T2, T3** = Optional orifices
- N** = Speed sensor

Product overview

Series 51 schematic

Circuit diagram – motor with control options: E1A5, E2A5



Ports:

- A, B** = Main pressure lines
- L1, L2** = Drain lines
- M1, M2** = Gauge port for A and B
- M3, M4** = Gauge port servo pressure
- M5** = Gauge port servo supply pressure, internal
- M7, M8** = Gauge port control pressure, internal
- T1, T2, T3, T7, T8** = Optional orifices
- N** = Speed sensor

Electrical specifications

Two-position solenoid

M-option	E1, E7	E2
Voltage	12 Vdc	24 Vdc
Rated power	14.7 W	14.7 W

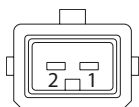
Electrical installation
Pinout
DIN 43650 connector
Pin location

Pinout

Pin	Function
1	PWM signal
2	Ground

Pinout (alternative)

Pin	Function
1	Ground
2	PWM signal

AMP Junior Power Timer connector
Pin location

Pinout

Pin	Function
1	PWM signal
2	Ground

Pinout (alternative)

Pin	Function
1	Ground
2	PWM signal

Pin compatibility
PLUS+1® module pin type

Pin	Function
1,2	DOUT
1,2	DOUT/PVG Power
1,2	PWMOUT/DOUT/PVG Power supply
1,2	PWMOUT/DOUT/PVGOUT
1,2	Power ground -

Electrical installation**Mating connector****DIN 43650 connector parts list**

Description	Quantity	Ordering Number
DIN 43650 connector	1	Hirschmann 932 106-100
Mating connector kit	1	Danfoss K09129

AMP connector parts list

Description	Quantity	Ordering number
Two pin connector	1	Tyco Electronics 282189-1
Contacts	2	Tyco Electronics 929940-1
Seal plugs	2	Tyco Electronics 828904-1
Mating connector kit	1	Danfoss K19815



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