DKRB24-3-T NEMA 2/NEMA 4 Actuators, On/Off, Floating Point

2 YEAR WARRANTY

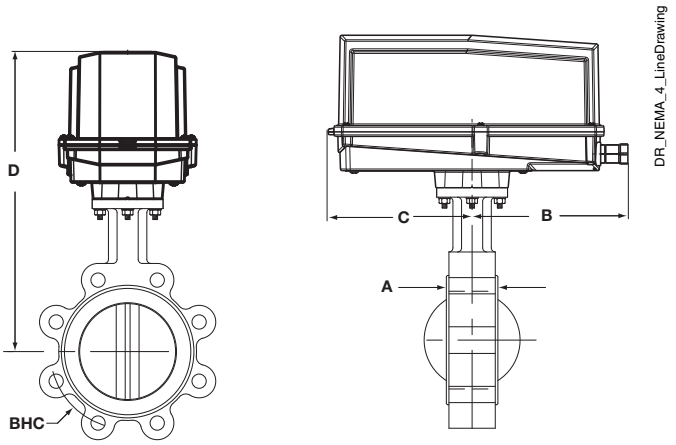
CE LISTED 94 DS TEMP.IND. & REG.EQUIP. c UL us BRUSHLESS DC motor

Models

DKRB24-3-T	w/terminal block
DKRB24-3-T N4	w/terminal block

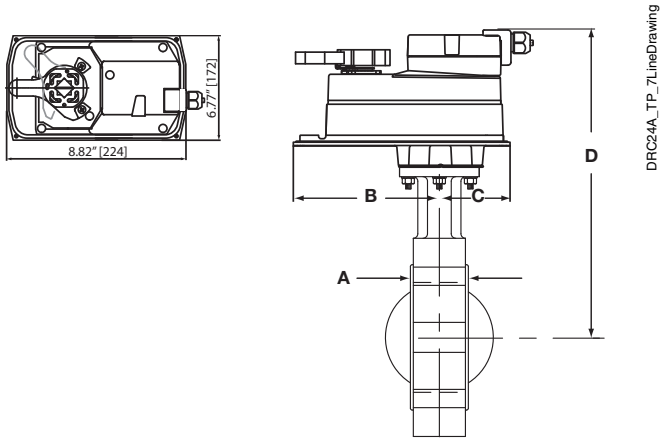
Technical Data	
Control	on/off, floating point
Power supply	24 VAC ± 20/-10% 50/60 Hz 24 VDC ± 10%
Power consumption running	12W
holding	3W
Transformer sizing	21 VA (class 2 power source)
Electrical connection	screw terminal (for 22 to 12 AWG wire)
Overload protection	electronic throughout 0° to 90° rotation
Input impedance	100 Ω at control input 1500 Ω floating point
Angle of rotation	90°
Position indication	visual pointer (N4)
Manual override	internal push button (UL Type 4) external push buttom (UL Type 2)
Running time	150 seconds (default)
Fail-Safe	35 seconds
Humidity	5 to 100% RH (UL Type 4) 5 to 95% RH non condensation (UL Type 2)
Ambient temperature	-22°F to 122°F [-30°C to 50°C]
Storage temperature	-40°F to 176°F [-40°C to 80°C]
Housing type	UL Type 4/NEMA 4/IP66 UL Type 2/NEMA 2/IP54
Housing material	Polycarbonate
Agency listings	cULus according to UL 60730-1A, UL 60730-2-14 and CAN/CSA E60730-1; Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14
EMC	CE according to 2004/108/EC
Quality standard	ISO 9001
Servicing	maintenance free

Dimensions with 2-Way Valve



Valve Nominal Size			Dimensions (Inches [mm])				
Valve Body	Inches	DN [mm]	A	B	C	D	FLG
F6100HD	4"	100	2.05 [52.1]	7.34 [186]	6.77 [172]	15.47 [393]	F07
F6150HDU	6"	150	2.19 [55.6]	7.34 [186]	6.77 [172]	16.47 [418]	F07

Dimensions without Housing



Valve Nominal Size			Dimensions (Inches [mm])				
Valve Body	Inches	DN [mm]	A	B	C	D	FLG
F6100HD	4"	100	2.05 [52.1]	5.81 [148]	2.64 [67.1]	13.25 [337]	F07
F6150HDU	6"	150	2.19 [55.6]	5.81 [148]	2.64 [67.1]	14.25 [362]	F07

Wiring Diagrams

INSTALLATION NOTES

1 Provide overload protection and disconnect as required.

2 ***CAUTION*** *Equipment Damage!*
Actuators may be connected in parallel if not mechanically mounted to the same shaft. Power consumption and input impedance must be observed.

3 Actuators may also be powered by 24 VDC.

4 Position feedback cannot be used with Triac sink controller.
The actuator internal common reference is not compatible.

5 Control signal may be pulsed from either the Hot (source) or the Common (sink) 24 VAC line.

8 Contact closures A & B also can be triacs.
A & B should both be closed for triac source and open for triac sink.

9 For triac sink the common connection from the actuator must be connected to the hot connection of the controller.

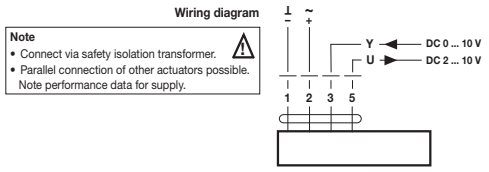
APPLICATION NOTES

Meets UL requirements without the need of an electrical ground connection.

WARNING *Live Electrical Components!*
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

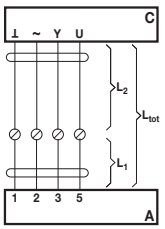
Electrical Installation

Wiring diagram

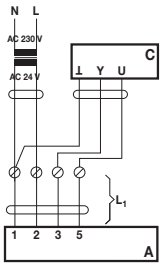


Note
- Connect via safety isolation transformer.
- Parallel connection of other actuators possible. Note performance data for supply.

Cable lengths



Note
When several actuators are connected in parallel, the maximum cable length must be divided by the number of actuators.



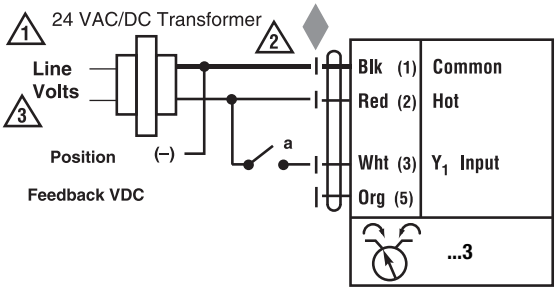
Note
There are no special restrictions on installation if the supply and data cable are routed separately.

Cable colors:
1 = black
2 = red
3 = white
5 = orange

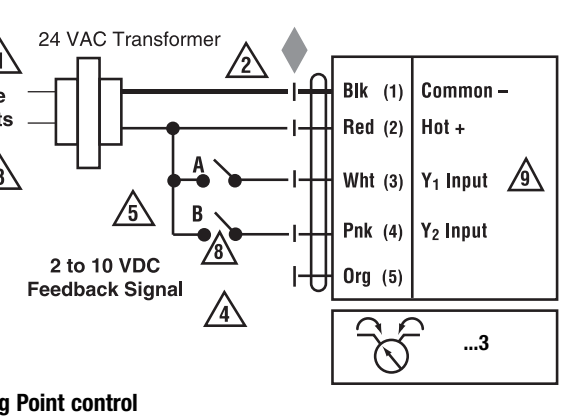
A = Actuator
C = Control unit
L_1 = Belimo connecting cable, 1 m (4 x 0.75 mm²)
L_2 = Customer cable
L_{tot} = Maximum cable length

Cross section L_2 ⊥ / ~	Max. cable length $L_{tot} = L_1 + L_2$ AC	DC	Example for DC
0.75 mm²	≤30 m	≤5 m	1 m (L_1) + 4 m (L_2)
1.00 mm²	≤40 m	≤8 m	1 m (L_1) + 7 m (L_2)
1.50 mm²	≤70 m	≤12 m	1 m (L_1) + 11 m (L_2)
2.50 mm²	≤100 m	≤20 m	1 m (L_1) + 19 m (L_2)

A = Actuator
C = Control unit
L_1 = Belimo connecting cable, 1 m (4 x 0.75 mm²)



On/Off control



Floating Point control