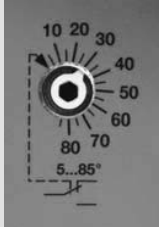





		NF120 US, NF120-S US	NFBUP, NFBUP-S, NFXUP, NFXUP-S	
OPERATION	Torque	60 in-lb [7 Nm] minimum	90 in-lb. [10 Nm] minimum	
	Running Time	Motor	< 75 seconds	<75 seconds
		Spring	< 60 seconds	20 seconds @ -4°F to 122°F [-20°C to 50°C]; <60 seconds @ -22°F [-30°C]
	Noise Level	Max. 45 dB (A)	<50dB(A) motor @ 75 seconds; ≤62dB(A) Spring Return	
	Motor Technology	DC Motor	DC Motor	
	Overload Protection	Electronic throughout 0° to 95° rotation	Electronic throughout 0° to 95° rotation	
	Operating Temperature	-22°F to 122°F [-30°C to 50°C]	-22°F to 122°F [-30°C to 50°C]	
Operating Humidity	5 to 95% RH non-condensing	5 to 95% RH, non-condensing		
CONTROL	Control Signal	On/Off	On/Off	
MOUNTING & COMMISSIONING	Dimensions (L x W x H)			
	With Conduit Fitting	10.47" [266] x 3.86" [98] x 3.25" [82.7]	9.69" [246] x 3.86" [98] x 3.42" [87]	
	Shaft Dimensions	Up to 1.05"	Up to 1.05"	
	Direction of Rotation	Reversible with CW/CCW mounting	Reversible with CW/CCW mounting	
	Manual Override	N/A	5 mm hex crank (3/16" Allen), supplied	
	Position Indication	Visual indicator, 0° to 95° (0° is Spring Return position)	Visual indicator, 0° to 95° (0° is Spring Return position)	
	Angle of Rotation	95°, adjustable 30 to 95° w/ ZDB-AF2 US accessory	95° (adjustable with mechanical end stop, 35° to 95°)	

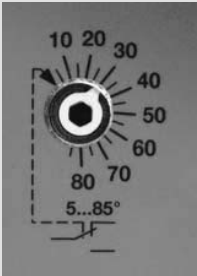



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		NF120 US, NF120-S US	NFBUP, NFBUP-S, NFXUP, NFXUP-S	
ELECTRICAL WIRING	Power Supply	120 VAC ± 10% 50/60 Hz	24...240 VAC -20 %/+10%, 50/60 Hz; 24...125 VDC +/- 10 %	
	Power Consumption	Running	7 W	6 W
		Holding	4 W	2.5 W
	Transformer Sizing	9.5 VA	6 VA @ 24 VAC 6.5 VA @ 120 VAC 9.5 VA @ 240 VAC	
	Auxiliary Switches	(-S Models): 1 x SPDT 7A (2.5A) @ 250 VAC, UL Approved, adjustable 5° to 85° 	(-S Models): Two SPDT 3A (0.5A inductive) @ 250V UL Approved, one set at + 10°, one adjustable 10° to 90° 	
Electrical Connection	3 ft, 18 GA appliance cable 1/2" conduit connector, (-S Models): Two 3 ft, 18 GA, appliance cables, 1/2" conduit connectors 	3 ft, 18 GA, appliance cable, 1/2" conduit connector, (-S Models): Two 3 ft, 18 GA, appliance cables, 1/2" conduit connectors; Optional 10 or 16 ft cables with X types 		
CONSTRUCTION	Housing Rating	NEMA 2, IP54	NEMA 2, IP54, Enclosure Type2	
	Housing Material	Zinc coated steel	Zinc coated metal and plastic casing	
	Agency Listings	cULus acc. to UL 873 and CAN/CSA C22.2 No. 24-93	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC & 2006/95/EC	
	Storage Temperature	-40°F to 176°F [-40°C to 80°C]	-40°F to 176°F [-40°C to 80°C]	
	Weight	7.3 lbs (3.3 kg)	4.15 lbs (1.9 kg), (-S Models): 4.4 lbs (2.0 kg)	

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		NF24 US, NF24-S US, NF24-S2 US	NFB24, NFB24-S, NFX24, NFX24-S	
OPERATION	Torque	60 in-lb [7 Nm] minimum	90 in-lb. [10 Nm] minimum	
	Running Time	Motor	< 75 seconds	< 75 seconds
		Spring	< 60 seconds	20 seconds @ -4°F to 122°F [-20°C to 50°C]; <60 seconds @ -22°F [-30°C]
	Noise Level	Max. 45 dB(A)	<50 dB(A) motor @ 75 seconds; ≤62 dB(A) Spring Return	
	Motor Technology	DC Motor	DC Motor	
	Overload Protection	Electronic throughout 0° to 95° rotation	Electronic throughout 0° to 95° rotation	
	Operating Temperature	-22°F to 122°F [-30°C to 50°C]	-22°F to 122°F [-30°C to 50°C]	
	Operating Humidity	5 to 95% RH non-condensing	5 to 95% RH, non-condensing	
CONTROL	Control Signal	On/Off	On/Off	
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Dimensions (L x W x H) [mm]</p> </div> <div style="text-align: center;"> </div> </div>			
MOUNTING & COMMISSIONING	With Conduit Fitting	10.47" [266] x 3.86" [98] x 3.25" [82.7]	9.69" [246] x 3.86" [98] x 3.42" [87]	
	Shaft Dimensions	Up to 1.05"	Up to 1.05"	
	Direction of Rotation	Reversible with CW/CCW mounting	Reversible with CW/CCW mounting	
	Manual Override	N/A	5 mm hex crank (3/16" Allen), supplied	
	Position Indication	Visual indicator, 0° to 95° (0° is Spring Return position)	Visual indicator, 0° to 95° (0° is Spring Return position)	
	Angle of Rotation	95°, adjustable 30 to 95° w/ ZDB-AF2 US accessory	95° (adjustable with mechanical end stop, 35° to 95°)	





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		NF24 US, NF24-S US, NF24-S2 US	NFB24, NFB24-S, NFX24, NFX24-S
Power Supply		24 VAC ± 20% 50/60 Hz; 24 VDC ± 10%	24 VAC, +/- 20%, 50/60 Hz; 24 VDC, +20/-10%
Power Consumption	Running	5 W	6 W
	Holding	2.6 W	2.5 W
Transformer Sizing		8 VA (Class 2 power source)	8.5 VA (Class 2 power source)
ELECTRICAL WIRING	Auxiliary Switches	<p>(-S Models): 1 x SPDT 7A (2.5A) @ 250 VAC, UL Approved adjustable 5° to 85°;</p> <p>(-S2 Models): 2 x SPDT 7A (2.5A) @ 250 VAC, UL Approved one set at +5°, one adjustable 25° to 85°</p> 	<p>(-S Models) Two SPDT 3A (0.5A inductive) @ 250V UL approved, one set at +10°, one adjustable 10° to 90°</p> 
	Electrical Connection	<p>3 ft, 18 GA appliance cable, 1/2" conduit connector; (-S and -S2 Models): Two 3 ft, 18 GA, appliance cables, 1/2" conduit connectors</p> 	<p>3 ft, 18 GA, appliance cable, 1/2" conduit connector; (-S Models) Two 3 ft, 18 GA, appliance cables, 1/2" conduit connectors; Optional 10 or 16 ft cables and plenum rated cables (non -S models only) with X types</p> 
CONSTRUCTION	Housing Rating	NEMA 2, IP54	NEMA 2, IP54, Enclosure Type2
	Housing Material	Zinc coated steel	Zinc coated metal and plastic casing
	Agency Listings	cULus acc. to UL 873 and CAN/CSA C22.2 No. 24-93	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC & 2006/95/EC
	Storage Temperature	-40°F to 176°F [-40°C to 80°C]	-40°F to 176°F [-40°C to 80°C]
	Weight	6.6 lbs (3.0 kg)	4.15 lbs (1.9 kg), (-S Models): 4.4 lbs (2.0 kg)

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		NF24-MFT US	NFB24-MFT, NFB24-MFT-S, NFX24-MFT, NFX24-MFT-S	
OPERATION	Torque	60 in-lb (8 Nm) minimum	90 in-lb. [10 Nm] minimum	
	Running Time	Motor	150 seconds (default); variable (75 to 300 seconds)	150 seconds (default), variable (40 to 220 seconds)
		Spring	<60 seconds	20 seconds @ -4°F to 122°F [-20°C to 50°C]; <60 seconds @ -22°F [-30°C]
	Noise Level	<45 dB (A)	≤40dB(A) motor @ 150 seconds, run time dependent; ≤62dB(A) Spring Return	
	Motor Technology	Brushless DC Motor	Brushless DC Motor	
	Overload Protection	Electronic throughout 0° to 95° rotation	Electronic throughout 0° to 95° rotation	
	Operating Temperature	-22° F to 122° F [-30° C to 50° C]	-22°F to 122°F [-30°C to 50°C]	
Operating Humidity	5 to 95% RH, non-condensing	5 to 95% RH, non-condensing		
CONTROL	Operating Range 'Y'	2 to 10 VDC, 4 to 20 mA w/500 Ω resistor; Programmable Variable	2 to 10 VDC, 4 to 20 mA w/500 Ω resistor; Variable (VDC, PWM, Floating Point, On/Off)	
	Input Impedance	100 kΩ for 2 to 10 VDC (0.1 mA); 500 Ω for 4 to 20 mA; 1500 Ω for PWM, Floating Point and On/Off	100 kΩ for 2 to 10 VDC (0.1 mA); 500 Ω for 4 to 20 mA; 1500 Ω for PWM, Floating Point, On/Off	
	Feedback Output 'U'	2 to 10 VDC, 0.5 mA max, variable when configured with MFT options	2 to 10 VDC, 0.5mA max, variable when configured with MFT options	
MOUNTING & COMMISSIONING	Dimensions (L x W x H) [mm]	<p>3.25" [82.7] 2.24" [57] 0.65" [16.5] 0.19" [5]</p> <p>0.39" [10] 2.64" [67] 10.47" [266] 5.85" [148.5] -0.26" [6.5] 3.86" [98] 3.15" [80] 1.97" [50] 1.03" [26]</p>	<p>3.42" [86.8] 2.37" [60.1] 0.8" [20.3]</p> <p>2.31" [58.7] 9.69" [246.1] 5.32" [135.0] 0.26" [6.5] 3.15" [80] 0.28" [7.1] 2.38" [60] 3.86" [98] 1.25" [31.7] 6.77" [172] 0.38" [9.7]</p>	
	With Conduit Fitting	10.47" [266] x 3.86" [98] x 3.25" [82.7]	9.69" [246] x 3.86" [98] x 3.42" [87]	
	Shaft Dimensions	Up to 1.05"	Up to 1.05"	
	Direction of Rotation	Motor	Reversible with built-in switch 	Reversible with built-in switch
		Spring	Reversible with CW/CCW mounting	Reversible with CW/CCW mounting
	Manual Override	N/A	5 mm hex crank (3/16" Allen), supplied 	
Position Indication	Visual indicator, 0° to 95° 	Visual indicator, 0° to 95° (0° is Spring Return position) 		

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		NF24-MFT US		NFB24-MFT, NFB24-MFT-S, NFX24-MFT, NFX24-MFT-S	
MOUNTING & COMMISSIONING	Angle of Rotation	95°, adjustable 30° to 90° w/ ZDB-AF2 US accessory		95° (adjustable with mechanical end stop, 35° to 95°)	
	Power Supply	24 VAC, ± 20%, 50/60 Hz; 24 VDC, ±10%		24 VAC, +/- 20%, 50/60 Hz; 24 VDC, +20/-10%	
ELECTRICAL WIRING	Power Consumption	Running	3 W	6.5 W	
		Holding	1.8 W	3 W	
	Transformer Sizing	6 VA (Class 2 power source)		9 VA (Class 2 power source)*	
	Auxiliary Switches	N/A		(-S Models): Two SPDT 3A (0.5A inductive) @ 250V UL approved, one set at + 10°, one adjustable 10° to 90°	
	Electrical Connection	3 ft, 18 GA, appliance cable, 1/2" conduit connector		3 ft, 18 GA, appliance cable, 1/2" conduit connector; (-S Models): Two 3 ft, 18 GA, appliance cables, 1/2" conduit connectors; Optional 10 or 16 ft cables and plenum rated cables (non -S models only) with X types	
CONSTRUCTION	Housing Rating	NEMA 2, IP54		NEMA 2, IP54, Enclosure Type2	
	Housing Material	Zinc coated metal		Zinc coated metal and plastic casing	
	Agency Listings	UL 873 listed, CSA C22.2 No. 24 certified		cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC & 2006/95/EC	
	Storage Temperature	-40° F to 176° F [-40° C to 80° C]		-40°F to 176°F [-40°C to 80°C]	
	Weight	6.0 lbs. (2.7 kg)		4.2 lbs (1.9 kg), (-S Models): 4.4 lbs.(2.0 kg)	

* 9 VA @ 40 second run time

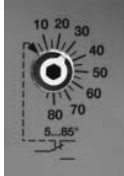



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NF24-SR US, NF24-SR-S US

NFB24-SR, NFB24-SR-S, NFX24-SR, NFX24-SR-S

OPERATION		NF24-SR US, NF24-SR-S US		NFB24-SR, NFB24-SR-S, NFX24-SR, NFX24-SR-S	
Torque		60 in-lb [7 Nm] minimum		90 in-lb. [10 Nm] minimum	
Running Time	Motor	150 seconds constant, independent of load		95 seconds	
	Spring	< 60 seconds		20 seconds @ -4°F to 122°F [-20°C to 50°C]; <60 seconds @ -22°F [-30°C]	
Noise Level		Max. 45 dB (A)		≤40dB(A) motor @ 95 seconds; ≤62dB(A) spring return	
Motor Technology		Brushless DC Motor		Brushless DC Motor	
Overload Protection		Electronic throughout 0 to 95° rotation		Electronic throughout 0° to 95° rotation	
Operating Temperature		-22°F to +122°F [-30°C to +50°C]		-22°F to 122°F [-30°C to 50°C]	
Operating Humidity		5 to 95% RH non-condensing		5 to 95% RH, non-condensing	
CONTROL		NF24-SR US, NF24-SR-S US		NFB24-SR, NFB24-SR-S, NFX24-SR, NFX24-SR-S	
Operating Range 'Y'		2 to 10 VDC, 4 to 20mA		2 to 10 VDC, 4 to 20 mA	
Input Impedance		100 kΩ (0.1 mA), 500 Ω		100 kΩ for 2 to 10 VDC (0.1 mA); 500 Ω for 4 to 20 mA	
Feedback Output 'U'		2 to 10 VDC (max. 0.5 mA) for 95°		2 to 10 VDC (max 0.5 mA)	
MOUNTING & COMMISSIONING		NF24-SR US, NF24-SR-S US		NFB24-SR, NFB24-SR-S, NFX24-SR, NFX24-SR-S	
Dimensions (L x W x H) [mm]					
With Conduit Fitting		10.47" [266] x 3.86" [98] x 3.25" [82.7]		9.69" [246] x 3.86" [98] x 3.42" [87]	
Shaft Dimensions		Up to 1.05"		Up to 1.05"	
Direction of Rotation	Motor	Reversible with built-in switch 		Reversible with built-in switch 	
	Spring	Reversible with CW/CCW mounting		Reversible with CW/CCW mounting	
Manual Override		N/A		5 mm hex crank (3/16" Allen), supplied 	
Position Indication		Visual indicator, 0° to 95° (0° is Spring Return position) 		Visual indicator, 0° to 95° (0° is Spring Return position) 	
Angle of Rotation		95°, adjustable 30° to 95° w/ ZDB-AF2 US accessory 		95° (adjustable with mechanical end stop, 35° to 95°) 	

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	NF24-SR US, NF24-SR-S US	NFB24-SR, NFB24-SR-S, NFX24-SR, NFX24-SR-S	
ELECTRICAL WIRING	Power Supply	24 VAC ± 20% 50/60 Hz; 24 VDC ± 10%	24 VAC, +/- 20%, 50/60 Hz; 24 VDC, +20/-10%
	Power Consumption	Running 3 W Holding 1 W	3.5 W 2.5 W
	Transformer Sizing	6 VA (Class 2 power source)	6 VA (Class 2 power source)
	Auxiliary Switches	(-S Models): 1 x SPDT 7A (2.5A) @ 250 VAC, UL listed adjustable 5° to 85° 	(-S Models): Two SPDT 3A (0.5A inductive) @ 250V UL approved, one set at +10°, one adjustable 10° to 90° 
	Electrical Connection	3 ft, 18 GA appliance cable 1/2" conduit connector; (-S Models): Two 3 ft, 18 GA, appliance cables, 1/2" conduit connectors 	3 ft, 18 GA, appliance cable, 1/2" conduit connector; (-S Models): Two 3 ft, 18 GA, appliance cables, 1/2" conduit connectors; Optional 10 or 16 ft cables and plenum rated cables (non -S models only) with X types 
CONSTRUCTION	Housing Rating	NEMA 2, IP54	NEMA 2, IP54, Enclosure Type2
	Housing Material	Zinc coated metal	Zinc coated metal and plastic casing
	Agency Listings	UL 873 listed, CSA C22.2 No.24 certified	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC & 2006/95/EC
	Storage Temperature	-40°F to +176°F [-40°C to +80°C]	-40°F to 176°F [-40°C to 80°C]
	Weight	6.0 lbs (2.7 kg)	4.15 lbs (1.9 kg), (-S Models):4.4 lbs (2.0 kg)

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