

# TEMPERATURE & ENVIRONMENTAL MODIFICATION // MODIFICATIONS

## COLD TEMPERATURE MODIFICATION

Code	
<b>MZ-00005</b>	Synthetic oil in reducer (for PRO-GH, GHC, GT, GSD)
<b>MK-00546</b>	Heater probe in reducer (24V, 20W, 3/8" NPT)
<b>MV-00120</b>	Heater probe in reducer (120V, 20W, 3/8" NPT)
<b>MK-00636</b>	Heater probe in control / limit box (24V, 20W, 2" long)
<b>MK-00174</b>	Heater probe in control / limit box (120V, 20W, 2" long)

## TEFC MOTOR - ENVIRONMENTAL MODIFICATION //

### PRO-T, PRO-TB, PRO-APT, PRO-SD, PRO-J, PRO-EJ, PRO-H, PRO-EHJ, PRO-HHD

Code	
	This modification replaces the open drip proof (ODP) motor found on all standard belt drive operators with a totally enclosed fan cooled (TEFC) motor.
<b>MX-00016</b>	TEFC motor upgrade for 1-phase belt drive operators
<b>MX-00138</b>	TEFC motor upgrade for 3-phase belt drive operators

## NEMA-4/12 MODIFICATION WATERTIGHT/OILTIGHT/DUSTTIGHT/CARWASH ENVIRONMENTAL MODIFICATION // PRO-T, PRO-TB, PRO-APT, PRO-SD, PRO-GT, PRO-GSD, PRO-J, PRO-H, PRO-HHD, PRO-GH, PRO-GHC

Code	
<b>PRO_W</b>	This modification provides a TEFC motor, N-4/12 watertight/oiltight control enclosure, waterproof drive and limit chain, and a watertight/oiltight three-button station.  Note: For control options (M) & (E), Fraba N4/4X photocells supplied



## NEMA-4X MODIFICATION CORROSION PROOF ENVIRONMENTAL MODIFICATION // PRO-T, PRO-TB, PRO-APTC, PRO-SD, PRO-GT, PRO-GSD, PRO-J, PRO-H, PRO-HHD, PRO-GH, PRO-GHC

Code	
<b>PRO_4X</b>	This modification provides a washdown motor, N-4X corrosion proof stainless steel control box enclosure, waterproof drive and limit chain and a corrosion proof three-button station.  Note: For jackshaft operators; stainless steel hand chain (MR00039) add \$6 per foot. Note: For control options (M) & (E), Micanan N-4 photocells supplied



## N-7/N-9 MODIFICATION EXPLOSION-PROOF ENVIRONMENTAL MODIFICATION // PRO-T, PRO-TB, PRO-SD, PRO-GT, PRO-GSD, PRO-J, PRO-H, PRO-GH, PRO-GHC

Code	
<b>PRO_X</b>	This modification provides for installation of an operator in hazardous locations rated (Division I/ Class I/ Group D), (Division I/ Class II, Groups F&G). All components are CSA & UL listed. Modification includes an explosion-proof motor, explosion proof fittings, operator mounted explosion-proof electrical control enclosure and an explosion-proof three-button station.  Note: For 50 Hz operators, consult factory. UL 325 compliant (Constant pressure close only).
<b>MK-00157</b>	Add for intrinsically safe, dual channel relay for safety edge circuit, x-proof barrier fitting (MG00128) supplied  Note: Div 1, class 1, Group C available upon request
<b>MV-00300</b>	Intrinsically safe reflective photo eye
<b>+ MV-00292</b> <b>MV-00293</b>	Intrinsically safe thru beam photo eye



NOTE: For intrinsically safe external remote PBS, two MK00157 modifications are required

\* For right hand mounting modification of Nema-7/9 belt drive operators (PRO-J/H), add \$300.00 to list price

\*\* Intrinsically safe relay required at additional cost

# MODIFICATIONS GUIDE // MODIFICATIONS

- : Standard feature
- : Available modification
- ▲: Special note

Control Panel

	LT	T	TB	APT	APTC	GT	LJ	J	EJ	LH	LHA	H	EHJ	HHD	GJ	GH	GHC	SD	GSD	Control Panel
<b>Mechanical Modifications</b>																				
Solenoid Brake	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Minimum depth (reverse mount)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Auxiliary chain hoist for trolley operators	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Auto-re-engage trolley carriage	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
#40 drive chain for Trolley operators	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Dual Trolley assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Jackshaft with auxiliary trolley assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Jackshaft with dual auxiliary trolley assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Double V-belt modification	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
#60, #80, #100 drive chain for Jackshafts	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Center mount mod / no chain hoist	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Auxiliary chain hoist for Jackshafts	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Hand crank modification	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Fire release	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
In-line torque clutch	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
High cycle modification	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Pro-GJ external load sensing modification	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Cast Iron Pillow blocks on frame	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Precision Bearing on input shaft modification	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Brake motor mod	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Bi-parting option	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Sliding fire door option	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Environmental Modifications</b>																				
TEFC Motor modification	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
N-4/12 (watertight/ oiltight)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
N-4X (carwash/ corrosion proof)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
N-7/9 (explosion proof) ▲1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Cold Weather Modifications</b>																				
Synthetic oil in reducer	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Heater probe in reducer ▲11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Heater probe in control/ limit box	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Heater c/w adjustable thermostat	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Control Wiring Options</b>																				
Relay Logic with Micanan interface module (M)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Full feature smart 10.0 logic board (E)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Relay Logic (R) not UL 325 (2010) compliant	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Electrical Control Modifications</b>																				
Timer to close 24V	▲4	▲4	●	●	▲4	▲4	▲5	▲5	▲4	▲5	▲4	▲5	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4
Timer to close 120V	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5
Open door indicator circuit	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5
Apartment feature (relay logic)	▲5	▲5	▲5	■	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5
Auxiliary device logic board	▲6	▲6	▲6	▲4	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6	▲6
Time delay on reverse 1.5 sec 24/120V	▲4	▲4	●	●	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4
Time delay 1.5 sec on all open functions	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5
Time delay on reverse 0.5 sec 24/120V	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4
Mid-stop feature	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4
4-wire failsafe	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7	▲7
Failsafe sensing circuit (UL325)	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8	▲8
LDM-1 long distance interface	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
115V secondary controls	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5
Two-door interlock	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Non-resetable cycle counter 24V	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Non-resetable cycle counter 120V	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5
Auxiliary limit switch	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Auxiliary contact block	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9
Reverse limit switches	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4
Roll back features	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4	▲4
Fusible disconnect	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ADA Horn and strobe	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Quick close feature	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5	▲5
Size 1 reversing starter upgrade	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9	▲9
Dynamic braking circuit (with solenoid)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Miller SM-102 signature module	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10	▲10
PLC controls	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Variable frequency inverter	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Any special custom mechanical feature	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Any special custom electrical feature	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

- ▲1 : Not available with logic board (E) or interface module (M) control option
- ▲2 : Standard feature for 1.5, 2, 3 and 5HP
- ▲3 : Available for modules PRO-JB and PRO-HB
- ▲4 : Standard feature for wiring control option (E), optional for (M) or (R)
- ▲5 : Optional for wiring control option (M) and (R), not available for (E)
- ▲6 : Optional for wiring control option (E), not available for (M) or (R)

- ▲7 : Standard feature for wiring control option (E) and (M), optional for (R)
- ▲8 : Standard feature for wiring control option (E) and (M), not available for (R)
- ▲9 : Optional feature for wiring control option (M) and (R), only available on (E) if voltage is 575V or HP over 1
- ▲10 : Optional feature for wiring control option (E) and (M), not available for (R)
- ▲11 : Not available with N-7/9 environmental modification