Modifications List

The following chart provides a list of modifications which are available. For more details about these modifications, please refer to the following pages.
Note: If more than one modification is required on the same operator, please consult inside sales for compatibility and price.

✦ Standard feature with **BOARD 070E/M**
✓ Standard feature
● Available feature
▲ Note
ⓘ Consult inside sales

E Electronic Control Type
M Monitored Electronic Control Type
0 Electromechanical (Hardwired) Type

	Description	Code	Control Type	Page	OMJ	OMH	OPJ	OPH	OHJ	OSH	OGH	MGH	MLT	OTH	OTH-A.00	OTBH	OTBH-A.00	OTBH-A.05	MGT	OSL	MGSL	PANEL
Control and Panel Modifications	B2 operating mode	MOD 001	E/M/0	42	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	D1 operating mode	MOD 002	E/M/0	42	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Delay on reverse	MOD 003	E/M	42	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Delay on reverse, H-Duty	MOD 003	0	42			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Delay on reverse, M-Duty	MOD 003	0	42	●	●							●									
	Fail Safe Sens. Edge Circuit	MOD 004	0	42	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Mid-stop	MOD 005	E/M	43	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Mid-stop	MOD 005	0	43			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Mid-stop & SBC	MOD 006	0	43			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Reverse limits	MOD 007	E/M/0	43	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Double limit switches	MOD 008	E/M/0	43	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Auxiliary Contact Block	MOD 009	0	43			●	●	●	●	●	●		●	●	●	●	●	●	●	●	
	Two door interlock	MOD 010	E/M/0	43	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Long dist. control wiring	MOD 011	0	43			●	●	●	●	●	●		●	●	●	●	●	●	●	●	
	Non-resettable counter, in	MOD 012	E/M/0	44,47			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Non-resettable counter, door	MOD 012A	E/M/0	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1		▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	Timer to close (TTC)	MOD 013	E/M	44	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Timer to close (TTC), Heavy	MOD 013	0	44,47			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Timer to close (TTC), Med.	MOD 013A/B	0	44	●	●							●									
	TTC for warning lights	MOD 014	0	44			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	TTC from mid-stop	MOD 015	E/M	44	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	TTC from mid-stop	MOD 015	0	44			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Wiring for traffic lights	MOD 016A/B	E/M/0	45			●	●	●	●	●	●		●	●	●	●	●	●	●	●	
	Maximum run timer	MOD 017	E/M	45,47	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Maximum run timer	MOD 017	0	45,47			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Control circuit 120V/1Ph	MOD 019A	0	45			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Control circuit >120V/1Ph	MOD 019B-E	0	45			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Safepack, 24V	MOD 021A	0	45				ⓘ		ⓘ	●	●		●		●			●	●	●	
	Panel NEMA1-1Ph/3Ph	MOD 022	E/M/0	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	Cable markings, panel	MOD 023	E/M/0	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	Panel NEMA4-1Ph/3Ph	MOD 024	E/M	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	Panel NEMA4-1Ph/3Ph	MOD 024	0	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	Univ. aux. output module	MOD 027B	E/M	46			●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	3PB for panel face	MOD 031	E/M/0	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1		▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	Rotary fuse disc., panel	MOD 032	E/M/0	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1		▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	Loop detector open, panel	MOD 033A	E/M/0	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1		▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	Loop detector sens., panel	MOD 033B	E/M/0	47			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1			▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	▲ 1	●
	N1 to N4 M-photo upgr.	MOD 034	M	46	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	N1 to N4X M-photo upgr.	MOD 035	M	46	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	N4 to N4X M-photo upgr.	MOD 036	M	46	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Information subject to change without prior notice

Modifications List

▲ 1 Available in conjunction with separate control panel
▲ 2 Available only with 1/2HP operators
▲ 3 Hoist on left, please consult inside sales
▲ 4 Comparative GH model is used
▲ 5 1-1/2HP 120V and 240V 1Ph operators, consult inside sales
▲ 6 Available only with 1/2HP - 2HP operators
▲ 7 Hoist can easily be moved to the left in the field
▲ 8 Available only with operators above 1/2HP

	Description	Code	Control Type	Page	OMJ	OMH	OPJ	OPH	OHJ	OSH	OGH	MGH	MLT	OTH	OTH-A.00	OTBH	OTBH-A.00	OTBH-A.05	MGT	OSL	MGSL	PANEL
Mechanical Modifications	Friction clutch, #50 chain	MOD 050	E/M/0	48							●	●										
	Friction clutch, #60 chain	MOD 051	E/M/0	48							●	●										
	Hoist on left hand side	MOD 053	E/M/0	48		●		●	●	●	▲ 7	▲ 7										
	Double 4L v-belt	MOD 055	E/M/0	48										●		●						
	Double Ax cogged v-belt	MOD 055A	E/M/0	48											●		●	●				
	Disc-type solenoid brake	MOD 056	E/M/0	48									●									
	Aux. trolley, #41 chain	MOD 060	E/M/0	49			●	●	●	●	●	●										
	Dual aux. trolley, #41 ch.	MOD 061	E/M/0	49			●	●	●	●	●	●										
	Dual trolley drive, #48 ch.	MOD 062	E/M/0	49										▲ 2		▲ 2						
	Dual trolley drive, #41 ch.	MOD 063	E/M/0	49										▲ 8	●	▲ 8	●	●	●			
	Trolley hoist, #48 chain	MOD 064	E/M/0	49										▲ 2		▲ 2						
	Trolley hoist, #41 chain	MOD 065	E/M/0	49										▲ 8	●	▲ 8	●	●				
	Chain hoist	MOD 066	E/M/0	50										●	●	●	●	●	●			
	P.B. bearings, output, Opera	MOD 068	E/M/0	50			●	●	●	✔												
	P.Block bearings, input	MOD 069	E/M/0	50										●	✔	●	✔	✔				
	P.Block bearings, output	MOD 072	E/M/0	50										●	●	●	●	✔				
	Front idler, heavy-duty	MOD 073	E/M/0	50									●	●	●	●	●	●	●			
	Hand crank	MOD 074	E/M/0	50							●	●										
	Motor 208V 1Ph 60Hz	MOD 076	E/M/0	50			●	●	●	●	●	●		●	●	●	●	●	●	●	●	
	Motor 240V 3Ph 60Hz	MOD 077	E/M/0	50			●	●	●	●	●	●		●	●	●	●	●	●	●	●	
	Minidepth modification	MOD 078	E/M/0	50										●	●	●	●	●				
	Solenoid brake option	MOD 111	E/M/0	51			●															
	Limit shaft speed-up	MOD 112	E/M/0	51	●	●	●	●	●	●	●											
	Drum brake option, apart.	MOD 113	E/M/0	51												●	●	✔				
	Synthetic oil upgr.	MOD 114	E/M/0	51							●	●							●		●	
	Solenoid anti-vibration	MOD 121A	E/M/0	51						●						●	●	✔		●		
	Motor anti-vibration mount	MOD 121B	E/M/0	51	●	●	●	●	●	●			●	●	●	●	●	●		●		
	Trolley slow-down option	MOD 124	E/M/0	51										●	●	●	●	●	●			
	Limit speed-up kit, #41 ch.	MOD 125	E/M/0	51								●										
	Limit chain on left/right	MOD 126A/B	E/M/0	52	●	ⓘ	●	ⓘ	ⓘ	ⓘ		ⓘ										
	Cogged v-belt upgr.	MOD 130	E/M/0	52						●				●	●	●	●	✔				
	NP chain trolley, up to 14'	MOD 137	E/M/0	52									●	●	●	●	●	●	●	●	●	
	NP chain trolley, >14'	MOD 138	E/M/0	52									●	●	●	●	●	●	●	●	●	
	NP chain jackshaft	MOD 139	E/M/0	52	●	●	●	●	●	●	●	●										
Environ.	TEFC motor upgr.	MOD 080	E/M/0	53			●	▲ 3		▲ 3	●	▲ 6		●	●	●	●	●	●	●	●	
	Damp-oil-dust tight N4/12	MOD 081	E/M/0	53			●	▲ 3		▲ 3	▲ 4	●		●	●	●	●	●	●	●	●	
	Hazardous location N7/9	MOD 082	0	53				ⓘ		ⓘ	▲ 4	●		●		●			●	●	●	
	Corrosive environ. N4X	MOD 083	E/M/0	53						▲ 3,5	▲ 3,4,5	▲ 5		▲ 5	▲ 5	▲ 5	▲ 5	▲ 5	▲ 5	▲ 5	▲ 5	

Control Modifications

The following modifications will provide additional control or protective features. They can be factory installed in the operator control box. Please refer to the summary table on page **40** to verify the availability of a specific modification for a specific operator model.

Note: If more than one modification is required on the same operator, please consult inside sales for compatibility and price.

✦ Standard feature with **BOARD 070E/M**

Please consult inside sales for additional modifications

Code	Description
MOD 001 ✦	**B2 Operating Mode** Momentary contact to open, close and stop with 3 push-button station. Activation of the monitored or non-monitored entrapment protection devices will reverse the door while closing. Auxiliary devices to function as open-close controls and to reverse the door while closing. **Note:** For Electronic Control "M" Type: B2 Operating Mode only functions if a monitored entrapment protection device is connected. **Applies to:** All operator models, PANEL.
MOD 002 ✦	**D1 Operating Mode** Constant-pressure-to-open and constant-pressure-to-close with a 3-push button station. Activation of the monitored or non-monitored entrapment protection devices will stop the door while closing. **Applies to:** All operator models, PANEL.
MOD 003 ✦	**Delay on Reverse** For Electronic Control "E" & "M" Types. Door will stop for 1.5 seconds during the closing cycle and then reverse to the fully open position. Ideal for large doors and high-cycling applications. **Applies to:** All operator models, PANEL.
MOD 003	**Delay on Reverse, Heavy-Duty Electromechanical Controls** For Heavy-Duty Electromechanical Control "0" Type. Same features as above. Also available as a modification kit (MODKIT003) for in the field upgrades for electromechanical controls, see page **62**. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A00/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.
MOD 003	**Delay on Reverse, Medium-Duty Electromechanical Controls** For Medium-Duty Electromechanical Control "0" Type. Same features as above but for medium-duty operators. **Applies to:** OMJ/OMH/MLT.
MOD 004	**Fail Safe Sensing Edge Circuit** For Electromechanical Control "0" Type. Circuit which oversees sensing edge operation. When the system becomes inactive, the door opens and remains open until the system has been verified and is operational. Also available as a modification kit (MODKIT004) for in the field upgrades for electromechanical controls, see page **62**. **Note:** 4-wire sensing edge is required ($). **Applies to:** All operator models, PANEL.

Control Modifications

✦ Standard feature **BOARD 070E/M**

Please consult inside sales for additional modifications

Code	Description
MOD 005 ✦	**Mid-stop Feature, Electronic Controls** For Electronic Control "E" & "M" Types. Door will stop at a predetermined position when an open signal is given from the fully closed position. The radio control or close push-button will close the door from the mid-stop position. The door will open fully from the mid-stop position if the open button is activated. **Applies to:** All operator models, PANEL.
MOD 005	**Mid-stop Feature, Electromechanical Controls** For Electromechanical Control "0" Type. Door can be stopped at a pre-set mid-position. Constant pressure on open button will override the mid-stop. Does not work with single-button radio controls. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.
MOD 006	**Mid-stop Feature & Single-Button Radio Control, Electromechanical Controls** For Electromechanical Control "0" Type. Door will stop at a predetermined position when an open signal is given from the fully closed position. The radio control or close push-button will close the door from the mid-stop position. The door will open fully from the mid-stop position if the open button is activated. Constant pressure on open button will override the mid-stop. Works with single-button radio controls. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.
MOD 007	**Reverse Limits** Necessary feature when the opening and closing of the door corresponds to a different rotational direction than the operator. **Applies to:** All operator models.
MOD 008	**Double Limit Switches, Wire Leads (Per Side)** An extra SPDT pole is available to control auxiliary features such as lights, fans, etc. The additional pole must be specified on either the normally open and/or normally close contact, as well as on the opening and/or closing sides. **Applies to:** All operator models.
MOD 009	**Auxiliary Contact Block (Per Side)** For Electromechanical Control "0" Type. Contact block (with 1 N.O. and 1 N.C.) is inserted on either the opening and/or closing side of the contactor in order to control auxiliary devices such as lights, fans, etc, when the operator is running. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL.
MOD 010	**Two Door Interlock** A two door operating system that allows one door to operate only if the other door on the same system is closed. Must be ordered for each operator. **Applies to:** All operator models.
MOD 011	**Long Distance Control Wiring, 24V** For Electromechanical Control "0" Type. Used when controls need to be located at an extended distance from the operator, see page **8**. Also available as a modification kit (MODKIT011) for in the field upgrades for electromechanical controls, see page **62**. ⚠ Controls should be placed so that the user has full view of the door when operating. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL.

Control Modifications

✦ Standard feature with **BOARD 070E/M**

Please consult inside sales for additional modifications

Code	Description
MOD 012	**Non-resettable Counter, Inside Control Box or Separate Control Panel** An electromechanical counter is activated to count each complete door cycle. The counter is mounted either inside the operator's control box or inside the panel. Non-resettable counter mounted on a separate control panel door is also available (MOD012A), see page **47**. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A.00/OTBH/OTBH-A.00/OTBH-A.05/MGT/OSL/MGSL, PANEL.
MOD 013 ✦	**Timer to Close, Electronic Controls** For Electronic Control "E" & "M" Types. 3-button open/close/stop function, including timer. When programmed, the feature closes the door from the fully opened position after a factory preset time (5s). Programmable increments of 1s or 15s. Max. 4m. **Applies to:** All operator models, PANEL.
MOD 013	**Timer to Close, Heavy-Duty Electromechanical Controls** For Heavy-Duty Electromechanical Control "0" Type. 3-button open/close/stop function, including timer. Will start cycle, reverse and refresh the timer from auxiliary control and reversing devices. Time delay programmable: 0-6000m. TTC from fully open position is also available as a modification kit (MODKIT013) for in the field upgrades for electromechanical controls, see page **62**. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.
MOD 013A	**Timer to Close, Medium-Duty Electromechanical Controls** For Medium-Duty Electromechanical Control "0" Type. Same as MOD013 but for medium-duty operators. Time delay programmable: 0-6000m. **Applies to:** OMJ/OMH.
MOD 013B	**Timer to Close, MLT Electromechanical Controls** For MLT with Electromechanical Control "0" Type. Same as MOD013A but for MLT model. Time delay programmable: 0-17m. **Applies to:** MLT.
MOD 014	**Timer to Close Wired for Warning Lights** For Electromechanical Control "0" Type. 3-button open/close/stop function, including timer. Will start cycle, reverse and refresh the timer from auxiliary control and reversing devices. Time delay programmable: 1-230s. Includes connections for red and green lights. **Note:** Available with single and 3 phase operators (see appropriate LIGHTBOX for corresponding line voltage). Light boxes not included ($). Consult inside sales for use with TRAFFIC029. An extra 100VA transformer ($) may be required for operators other than 120V. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.
MOD 015 ✦	**Timer to Close From Mid-Stop, Electronic Controls** For Electronic Control "E" & "M" Types. 3-button open/close/stop function, including timer. When programmed, the feature closes the door from the mid-stop position after a factory preset time (5s). Programmable increments of 1s or 15s. Max. 4m. **Applies to:** All operator models, PANEL.
MOD 015	**Timer to Close From Mid-Stop, Electromechanical Controls** For Electromechanical Control "0" Type. 3-button open/close/stop function, including timer. Will start cycle, reverse and refresh the timer from auxiliary control and reversing devices. Time delay programmable: 1-1023s. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.

Control Modifications

✦ Standard feature with **BOARD 070E/M**

Please consult inside sales for additional modifications

Code	Description
MOD 016A	**Wiring for Traffic Lights, Electromechanical Controls** For Electromechanical Control Control "0" Type. Controlling action for red and green warning lights. Non-programmable. Traffic lights and light boxes are sold separately, see page **58**. Green light goes on when the door is fully open and the red light stays on when the door is opening/closing and is fully closed. **Note:** Mainly applies to 120V/1Ph operators. Consult inside sales if MOD016 is needed on other voltages (single or 3 phase), an extra 100VA transformer ($) may be required for operators other than 120V. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL.
MOD 016B	**Wiring for Traffic Lights, Electronic Controls** For Electronic Control "E" & "M" Types. Same as above but different program sequences are available. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A.00/OTBH/OTBH-A.00/OTBH-A.05/MGT/OSL/MGSL.
MOD 017 ✦	**Maximum Run Timer, Electronic Controls** For Electronic Control "E" & "M" Types. When programmed, this feature calculates the total time required for the door to travel from the fully closed to the fully opened position and adds 10s to this time. If the door is obstructed during its travel, this feature will stop the operator after the maximum run timer time has elapsed. Default time set is 90s. Also available for separate control panels, see page **47**. **Applies to:** All operator models, PANEL.
MOD 017	**Maximum Run Timer, Electromechanical Controls** For Electromechanical Control Control "0" Type. If the door is obstructed during its travel, this feature will stop the operator after the maximum run timer time has elapsed. Also available for separate control panels, see page **47**. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.
MOD 019A	**Control Circuit 120V, 120V/1Phase Operators** For Electromechanical Control "0" Type. The standard 24VAC control circuit is replaced by a 120VAC control circuit on 120V/1Ph operators. Reversing sensing circuit and push-button stations are also 120VAC. Radio controls are not available on a 120VAC control circuit. ⚠ Consult inside sales for operator UL/CSA listing when MOD019 is added. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.
MOD 019B-E	**Control Circuit 120V, Operators above 120V/1Phase** Same as above but applies to 240V/1Ph and 208-480-600V/3Ph operators. **Note:** Not compatible with MOD082 3ph. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL, PANEL.
MOD 021A	**Safepack, 24V Control Circuit** For Electromechanical Control "0" Type. Applies only to single and 3-phase heavy-duty jackshaft and gear head operators sold with the NEMA 7/9 type modification (MOD082). A safepack module is used as an "Intrinsically Safe Barrier Relay" and in hazardous locations with non-voltage producing sensors, thus allowing the user to use a N.O. non-monitored sensing edge. MOD021 is also available for 120V control in conjunction with MOD019 ($). **Note:** Radio controls are not compatible with operators built with MOD021. **Applies to:** OGH/MGH/1OTH/OTBH/MGT/OSL/MGSL. For models OPJ/OPH/OHJ/OSH, please consult inside sales.

Control Modifications

✦ Standard feature with **BOARD 070E/M**

Please consult inside sales for additional modifications

Code	Description
MOD 027B	**Universal Auxiliary Output Module** For Electronic Control "E" & "M" Types. Module can control several auxiliary devices such as: traffic light, horn, solenoid lock, air curtain, alarm, fan, brake, motor, etc...Devices not included. Contact ratings: 12A 120VAC, 10A 240VAC or 28VDC. For traffic light applications, the module works in conjunction with the timer to close from the preset mid-stop and/or fully open positions. The red light is on (solid) while the door is opening/closing. The green light is on (solid) when the door is at mid-stop/fully open position and stays on as long as the timer to close is active. The red light flashes when the door is about to close until the descending motion begins. Also available as an assembly kit (WLMODULE002) for in the field upgrades, see page **61**. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A.00/OTBH/OTBH-A.00/OTBH-A.05/MGT/OSL/MGSL.
MOD 034	**Monitored Photo Cell Upgrade, NEMA 1 to NEMA 4** For Electronic Control "M" Types. The standard NEMA 1 monitored photo cell (PHOTO062) is upgraded to a monitored photo cell in a NEMA 4 enclosure (PHOTO064). Incl.: transmitter, receiver, 30ft of 2-solid conductor wires (UL CL-2 type) and mounting hardware. **Applies to:** All operator models.
MOD 035	**Monitored Photo Cell Upgrade, NEMA 1 to NEMA 4X** For Electronic Control "M" Types. The standard NEMA 1 monitored photo cell (PHOTO062) is upgraded to a NEMA 4X monitored photo cell (PHOTO061). Ideal for industrial environments, submersible and impact resistant. Flexible design withstands and realigns after mechanical impact. Max. range 45ft. Incl.: transmitter, receiver, 3ft of conductor wires and mounting hardware. **Applies to:** All operator models.
MOD 036	**Monitored Photo Cell Upgrade, NEMA 4 to NEMA 4X** For Electronic Control "M" Types. The NEMA 4 monitored photo cell (PHOTO064) is upgraded to a NEMA 4X monitored photo cell (PHOTO061). Ideal for industrial environments, submersible and impact resistant. Flexible design withstands and realigns after mechanical impact. Max. range 45ft. Incl.: transmitter, receiver, 3ft of conductor wires and mounting hardware. **Applies to:** All operator models.

Custom Industrial Panels

Manaras-Opera can provide you with your own custom developed industrial panels.
Partnering with you every step of the way, Manaras-Opera engineers apply their in-depth know-how and disciplined design methods to develop and assemble a wide variety of custom panels to meet your specific needs. Call your sales representative for further details or to receive a quote to meet your specific requirements.

Manaras-Opera special custom industrial control panels are C-CSA-US certified.

- Panels are CSA marked to the USA UL standards 50, 508, 508A and to the Canadian CSA standards C22.2/0, 0.4, 14, 94.
- Manaras-Opera complies with CSA & UL traceability requirements when building and testing panel assemblies.
- Document archiving and maintenance are required for each special industrial panel built; production order, bill of material, electrical drawing, layout, pictures, checklist, etc.
- These standards require that Manaras-Opera incorporates a fuse protection on the primary side of the transformer in order to protect it's integrity.
- CSA performs regular unannounced inspections of Manaras-Opera in order to verify their compliance with these standards.

Control Panel Modifications

Separate control panels are used when there is a need for the operator control circuit to be housed at a remote location from the operator. Only the limit switches, the solenoid brake actuator and a terminal strip are supplied in the operator control box. All standard features found in an operator are available in the control panel.

Note: If more than one modification is required on the same panel, please consult inside sales for compatibility and price.

✦ Standard feature with **BOARD 070E/M**

Please consult inside sales for additional modifications

Code	Description
MOD 022	**Separate Control Panel, NEMA 1** Steel enclosure, 16"x12"x6", finished with heat fused polyester powder. Hinged cover with one 1/4-turn latch. Color-coded wiring. Available only in conjunction with an operator. ⚠ Panels are CSA marked to the USA UL standards 50, 508, 508A and to the Canadian CSA standards C22.2/0, 0.4, 14, 94. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A.00/OTBH/OTBH-A.00/OTBH-A.05/MGT/OSL/MGSL.
MOD 024	**Separate Control Panel, NEMA 4** For Electronic Control "E" & "M" Types. Steel enclosure, 20"x16"x8", finished with heat fused polyester powder. Hinged cover with two 1/4-turn latches. Color-coded wiring. NEMA4 1Ph or 3Ph. Available only in conjunction with an operator. ⚠ Panels are CSA marked to the USA UL standards 50, 508, 508A and to the Canadian CSA standards C22.2/0, 0.4, 14, 94. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A.00/OTBH/OTBH-A.00/OTBH-A.05/MGT/OSL/MGSL.
MOD 024	**Separate Control Panel, NEMA 4** For Electromechanical Control "0" Type. Same as above. **Applies to:** OPJ/OPH/OHJ/OSH/OGH/MGH/OTH/OTH-A000/OTBH/OTBH-A000/OTBH-A005/MGT/OSL/MGSL.

NEMA 1 Panel

NEMA 4 Panel (with rotary fuse disconnect, 3 push-buttons)

Modifications Applicable to Separate Control Panels

MOD 012	**Non-resettable Counter, Inside Separate Control Panel** An electromechanical counter is activated to count each complete door cycle. The counter is mounted inside the panel. **Applies to:** MOD022/MOD024 PANEL.
MOD 012A	**Non-resettable Counter, Separate Control Panel Door** An electromechanical counter is activated to count each complete door cycle. The counter is mounted on the exterior of the panel door. **Applies to:** MOD022/MOD024 PANEL.
MOD 013 ✦	**Timer to Close, Electronic Controls** (see page **44**)
MOD 013	**Timer to Close, Electromechanical Control** (see page **44**)
MOD 017 ✦	**Maximum Run Timer, Electronic Controls** (see page **45**)
MOD 017	**Maximum Run Timer, Electromechanical Controls** (see page **45**)
MOD 023	**Individual Cable Markings, Separate Control Panels**
MOD 031	**3 Push-Buttons, Separate Control Panel Door**
MOD 032 [(1)]	**Rotary Fuse Disconnect, Separate Control Panel**
MOD 033A	**Loop Detector (Open Device), Separate Control Panel**
MOD 033B	**Loop Detector (Sensing Device), Separate Control Panel**

[(1)] **Note:** MOD032 is not compatible with MOD022, please order MOD024 instead of MOD022.