



E-Stop Buttons

page 152

- Mechanical and optical palm buttons push to stop and twist to release.
- Modular design makes assembly and installation easy.
- Kits simplify selection and ordering.

E-STOP BUTTONS

ROPE PULL SWITCHES



Rope Pull Switches page 157

- Available spans range from 6 to 100 m.
- Trip and latch switch models are available.
- Minimum switch life is 1 million operations.
- Heavy-duty switch housings withstand harsh environments and outdoor use.

PICO-GUARD™

Fiber Optic Emergency Stop Push Buttons

PICO-GUARD™ Buttons work in conjunction with the PICO-GUARD Controller and other optical elements in personnel safety and equipment protection applications. The E-Stop Button is used with Banner's plastic fiber optic cable and offers a simple, quick means of connecting and disconnecting the fiber. When paired with the PICO-GUARD Controller, the E-Stop Button meets Safety Category 4 applications (per ISO 13849-1) and is certified for use in harsh and potentially explosive environments.

- Features bright red push-to-stop, twist-to-release button with yellow background that complies with ANSI NFPA 79, IEC 60204-1 and ISO 13850 (EN 418)
- Provides choice of models with fiber connections on same side or opposite sides of enclosure
- Certified to ISO 13849-1 Category 4 requirements
- Delivers easy connection for 2 mm OD (1 mm core) plastic fibers
- Accommodates up to 3 E-Stops in a series on a single channel (all PICO-GUARD controllers have four channels)
- Constructed of impact-resistant polycarbonate resin—rated IP65
- Can be used with SFI interlocking switches in same optical loop
- Offers easy mounting and installation



PICO-GUARD Optical E-Stop Buttons



ATEX, FM and CSA certified for use in Class 1 Division 1 and Zone 0 potentially explosive environment

- Paint booths
- Paint and stain manufacturing
- Gaseous fill areas (example, cigarette lighters)
- Cosmetic and perfume manufacturing
- Film and web processing
- Chemical processing
- Battery manufacturing
- Pharmaceutical manufacturing
- Semiconductor processing

Fiber connection ports

Same side
SFS-EBM-01E1Opposite sides
SFS-EBM-01E2



E-Stop Button


Emergency Stop Push Buttons

- Electromechanical palm buttons push to stop and twist to release.
- Modular design makes assembly and installation easy.
- Kits simplify selection and ordering.
- Latching design complies with ANSI NFPA 79, IEC 60204-1 and ISO 13850 (EN 418).
- Options include station enclosures, contact elements and disc labels.

E-STOP BUTTONS

ROPE PULL SWITCHES

E-Stop Buttons

- Choice of metal or plastic
- Rugged modular construction
- Choice of normally open auxiliary contacts and normally closed safety contacts
- Positive opening safety contacts (IEC 60947-5-1) 










Emergency Stop Push Button with Enclosure
(Plastic button version shown)



Metal (top) and
Plastic (bottom) buttons

E-Stop Push-Button Components


Models	Description	Product	Data Sheet
8-LP2T-B6644*	22.5 mm plastic button (mounting adapter included)		111880
8-LM2T-B6644*	22.5 mm metal button (8-LM2T-AU120 mounting adapter sold separately)		
8-LM2T-AU120	Metal mounting adapter		
8-LM2T-C01**	Normally closed (NC) positively driven contact element		
8-LM2T-C10	Normally open (NO) auxiliary contact element		
8-L2PP-1A5	One-button enclosure—control stations have wire entry through the top or bottom; IP65 rating		
8-LM2T-AU115†	60 mm diameter, non-adhesive plastic legend with “Emergency Stop” inscription		

* Twist to release, mechanical latching ISO 13850 (EN 418) compliant. Diameter 40 mm (without mounting adapter).

** Direct (positive) opening operation per IEC/EN 60947-5-1.

† Additional E-Stop background labels are available (see p/n 121976).










E-Stop Push-Button Kits

Models	E-Stop Button	Contacts	Enclosure	Legend
SSA-EBM-02L		2 NC	No	111880
SSA-EBM-11L		1 NC & 1 NO		
SSA-EBM-12L		2 NC & 1 NO		

NC = Normally Closed Contact, NO = Normally Open Contact




E-Stop Push-Button Kits (cont'd)


Models		E-Stop Button	Contacts	Enclosure	Legend
SSA-EBP-02L		Plastic	2 NC	No	Yes
SSA-EBP-11L			1 NC & 1 NO		
SSA-EBP-12L			2 NC & 1 NO		
SSA-EBM-02E		Metal	2 NC	Yes	Yes
SSA-EBM-11E			1 NC & 1 NO		
SSA-EBM-12E			2 NC & 1 NO		
SSA-EBP-02E		Plastic	2 NC	Yes	Yes
SSA-EBP-11E			1 NC & 1 NO		
SSA-EBP-12E			2 NC & 1 NO		

NC = Normally Closed Contact, NO = Normally Open Contact

E-Stop Push-Button Specifications

Mechanical Life	300,000 operations
Operating Force	0.8 kg
Mounting Adapter	Plastic button: The adapter is fixed to the mounting surface by means of incorporated screws ($T_{max} = 0.6 \text{ Nm}$) Metal button: The adapter is fixed to the mounting surface by means of incorporated screws ($T_{max} = 0.8 \text{ Nm}$)
Construction	Plastic parts: Polyamide and polycarbonate Metal parts: Aluminum and zinc alloy
Environmental Rating	IP65; NEMA 4, 13
Operating Temperature	-25° to +60° C
Certifications	

Contact Specifications

European Rating	Utilization categories: AC15 and DC13 $U_i = 690 \text{ V ac}$ $I_{th} = 10 \text{ A}$ UL designation = A 600 Q600
Mechanical Life	1,000,000 operations
Connections	(1 or 2) 12 AWG (2.5 mm ²) maximum wire size
Construction	Polyamide and polycarbonate
Environmental Rating	IP20
Operating Temperature	-25° to +60° C
Certifications	



Rope Pull Switches

Multiple Location Emergency Shutdown

- Available spans range from 6 to 100 m.
- Trip and latch switch models are available.
- Minimum switch life is 1-million operations.
- Heavy-duty switch housings withstand harsh environments and outdoor use.
- Switch activates if the rope is pulled, becomes loose or breaks.

E-STOP BUTTONS

ROPE PULL SWITCHES



<i>RP-RM83 Models</i>	<i>Page 157</i>
<i>RP-LS42 Models</i>	<i>158</i>
<i>RP-QM72/QMT72 Models</i>	<i>159</i>
<i>RP-LM40 Models</i>	<i>160</i>
<i>RP-QM90 Models</i>	<i>160</i>
<i>Components for Wire Rope Assembly</i>	<i>161</i>

RP-RM83 Rope Pull Switches

- Latch design
- Rope span up to 75 meters
- Manual reset with E-Stop button
- Tension indicator
- Additional solid-state auxiliary output for remote tension monitoring
- Extra contacts for switch monitoring
- Positive opening safety contacts (IEC 60947-5-1)
- See page 161 for wire rope components












RP-RM83F-75LT.. and
RP-RM83F-38LT.. Models



RP-RM83F-75LR.. and
RP-RM83F-38LR.. Models

RP-RM83 Series, 83 mm



Models		Actuation	Safety Contacts**	Auxiliary Contacts	Action/Contact State**				Contact Config. & Switch Diagram	Data Sheet
Max. Rope Length 75 m	Max. Rope Length 38 m				Safety	Auxiliary				
RP-RM83F-75LTE	RP-RM83F-38LTE	Latch (Rope Pulled)	2 NC in 	2 NO in 	 open	open	closed	closed	SD029 & SD030 (p. 217)	141245
RP-RM83F-75LRE	RP-RM83F-38LRE				 open	open	closed	closed		
RP-RM83F-75LT	RP-RM83F-38LT				 open	open	closed	closed		
RP-RM83F-75LR	RP-RM83F-38LR				 open	open	closed	closed		

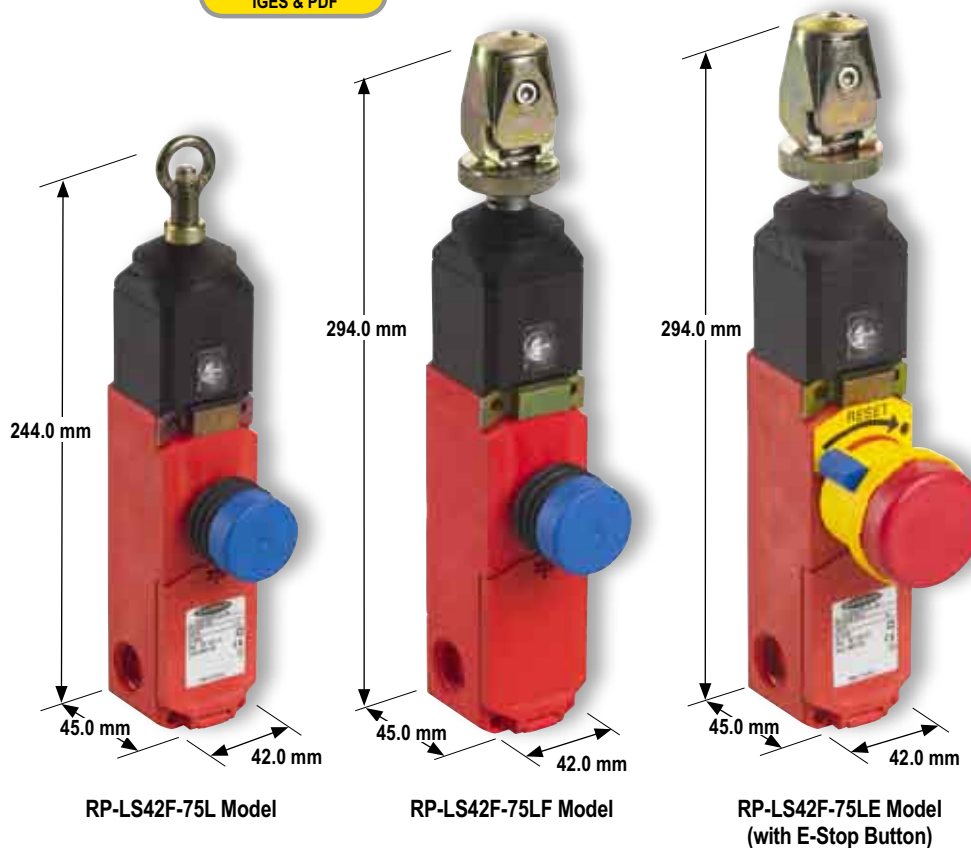
 Run Position  Cable Pulled  Cable Break NC = Normally Closed Contact, NO = Normally Open Contact

** See data sheet or Contact Configuration and Switching Diagrams for more information/clarification.






RP-LS42 Rope Pull Switches






- Rope span up to 75 meters
- Manual reset
- Extra contacts for switch monitoring
- Latch design
- Tension indicator
- Model with E-stop button and quick rope fixing and tensioning
- 42 mm wide at base
- Insulated device (IEC 60947-5-1) 
- Positive opening safety contacts (IEC 60947-5-1) 
- See page 161 for wire rope components



RP-LS42 Series, 42 mm

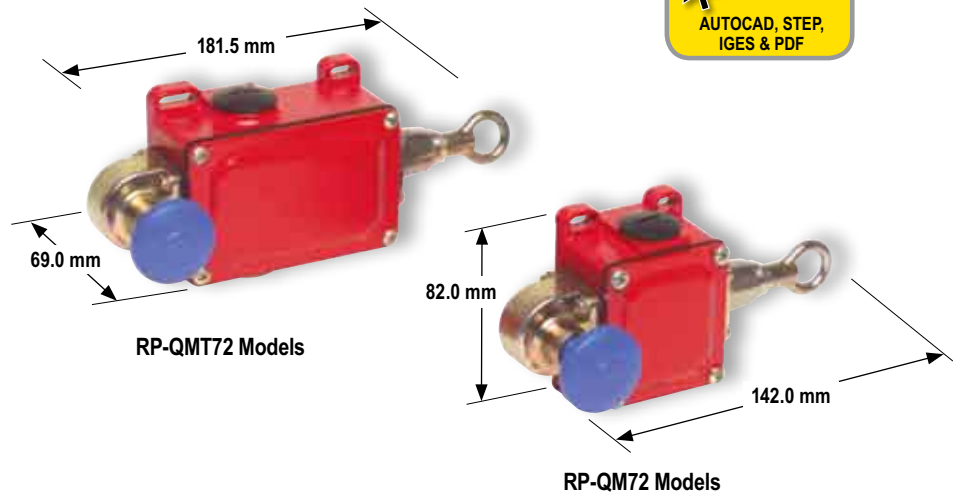
Model	Actuation	Max. Rope Length	Safety Contacts**	Auxiliary Contact	Action/Contact State**				Contact Config. & Switch Diagram	Data Sheet
RP-LS42F-75L	Latch (Rope Pulled)	75 m	2 NC in 	2 NO in 	 open	open	closed	closed	SD031 (p. 218)	67709
RP-LS42F-75LE					 open	open	closed	closed		
RP-LS42F-75LF					 open	open	closed	closed		

 Run Position  Cable Pulled  Cable Break NC = Normally Closed Contact, NO = Normally Open Contact

** See data sheet or Contact Configuration and Switching Diagrams for more information/clarification.

RP-QM72/QMT72 Rope Pull Switches

- Five latch-design models from which to choose
- Models with 6, 12 or 20 m rope spans
- Manual reset
- Models with extra contacts for monitoring or for dual-channel input to a safety device
- Protective earth terminal (IEC 60947-1)
- Tension indicator
- 82 mm wide at base
- Positive opening safety contacts (IEC 60947-5-1)
- See page 161 for wire rope components



RP-QM72/QMT72 Series, 72 mm

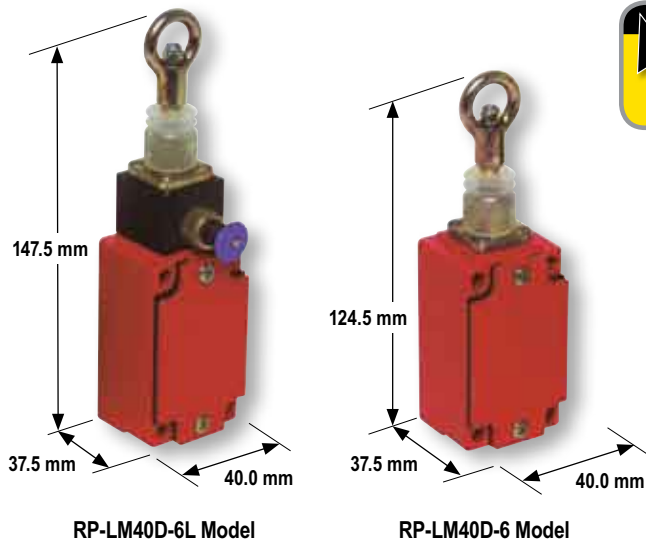
Model	Actuation	Max. Rope Length	Safety Contacts*	Auxiliary Contact	Action/Contact State*	Contact Config. & Switch Diagram	Data Sheet
RP-QM72D-6L	Latch (Rope Pulled)	6 m	2 NC in	—	Safety		SD032 (p. 218)
RP-QM72D-12L		12 m			open closed	closed open	SD033 (p. 218)
RP-QMT72D-20L		20 m					SD034 (p. 218)
RP-QMT72F-12L		12 m	4 NC in	—	Safety		SD035 (p. 218)
RP-QMT72E-12L		12 m	2 NC in	1 NO in	Safety Auxiliary		SD036 (p. 218)

Run Position Cable Pulled Cable Break NC = Normally Closed Contact

* Jumper Contacts together for use in a single-channel E-stop application. See data sheet or Contact Configuration and Switching Diagrams for more information/clarification.

RP-LM40 Rope Pull Switches

- Limit-switch style
- Rope span up to 6 meters
- Trip and latch models
- Protective earth terminal (IEC 60947-1) ⊕
- Standard limit switch housing (EN 50041)
- Rugged metal housing
- 40 mm wide at base
- Positive opening safety contacts (IEC 60947-5-1) ⤴
- See page 161 for wire rope components



RP-LM40 Series, 40 mm

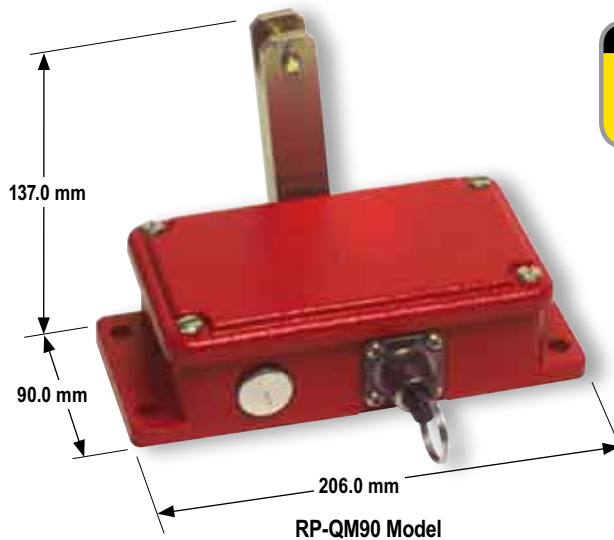
Model	Actuation	Max. Rope Length	Safety Contact*	Auxiliary Contact	Action/Contact State*	Contact Config. & Switch Diagram	Data Sheet
RP-LM40D-6	Trip	6 m	2 NC in	—	open closed	SD037 (p. 219)	62082
RP-LM40D-6L	Latch				closed open	SD038 (p. 219)	

Run Position Cable Pulled Cable Break NC = Normally Closed Contact

* Jumper Contacts together for use in a single-channel E-stop application. See data sheet or Contact Configuration and Switching Diagrams for more information/clarification.

RP-QM90 Rope Pull Switch

- Latch design
- Rope span up to 100 m, with switch in center
- Manual reset
- Extra contacts for switch monitoring
- Protective earth terminal (IEC 60947-1) ⊕
- 90 mm wide at base
- Positive opening safety contact (IEC 60947-5-1) ⤴
- See page 161 for wire rope components












RP-QM90 Series, 90 mm

Model	Actuation	Max. Rope Length	Safety Contacts**	Auxiliary Contacts	Action/Contact State**	Contact Config. & Switch Diagram	Data Sheet										
RP-QM90F-100L	Latch (Rope Pulled)	100 m	2 NC in	2 NO in	<table border="0"> <tr> <td></td> <td>open</td> <td>open</td> <td>closed</td> <td>closed</td> </tr> <tr> <td></td> <td>open</td> <td>open</td> <td>closed</td> <td>closed</td> </tr> </table>		open	open	closed	closed		open	open	closed	closed	SD039 (p. 219)	62086
	open	open	closed	closed													
	open	open	closed	closed													

Run Position Cable Pulled Cable Break NC = Normally Closed Contact, NO = Normally Open Contact

** See data sheet or Contact Configuration and Switching Diagrams for more information/clarification.

Components for Wire Rope Assembly

Models		Package Quantity	Description		Used With	
Wire Ropes		RPA-C1-10	10 m	2 mm steel wire rope with 0.5 mm red PVC jacket (unterminated)	<ul style="list-style-type: none"> • RP-LM40 models • RP-RM83 modules 	
		RPA-C1-20	20 m			
		RPA-C1-100	100 m			
		RPA-C2-10	10 m	3 mm steel wire rope with 0.5 mm red PVC jacket (unterminated)	<ul style="list-style-type: none"> • RP-LS42 models • RP-QM72/QMT72 models • RP-RM83 models 	
		RPA-C2-20	20 m			
		RPA-C2-50	50 m			
		RPA-C2-80	80 m			
		RPA-C3-20	20 m	4 mm steel wire rope with 0.5 mm red PVC jacket (unterminated)	<ul style="list-style-type: none"> • RP-QM90 models • RP-RM83 modules 	
		RPA-C3-100	100 m			
Thimbles		RPA-T1-4	4 pcs	Thimble for 2 mm wire rope	• RP-LM40 models	
		RPA-T2-4	4 pcs	Thimble for 3 mm wire rope	<ul style="list-style-type: none"> • RP-LS42 models • RP-QM72/QMT72 models • RP-RM83 models 	
		RPA-T3-4	4 pcs	Thimble for 4 mm wire rope	• RP-QM90 models	
Clamps		RPA-CC1-4	4 pcs	Clamp for 2 mm wire rope	• RP-LM40 models	
		RPA-CC2-4	4 pcs	Clamp for 3 mm wire rope	<ul style="list-style-type: none"> • RP-LS42 models • RP-QM72/QMT72 models • RP-RM83 models 	
		RPA-CC3-4	4 pcs	Clamp for 4 mm wire rope	• RP-QM90 models	
Turnbuckles		RPA-TA1-1	1 pc	#4 Turnbuckle	<ul style="list-style-type: none"> • RP-LM40 models • RP-LS42 models • RP-QM72/QMT72 models • RP-RM83 models 	
		RPA-TA2-1	1 pc	#5 Turnbuckle	• RP-QM90 models	
Eye Bolts		RPA-EB1-1	1 pc	1/4" - 20 Eye bolt (3" bolt shaft)	<ul style="list-style-type: none"> • RP-LM40 models • RP-LS42 models • RP-QM72/QMT72 models • RP-RM83 models 	
		RPA-EB2-1	1 pc	5/16" - 18 Eye bolt (3" bolt shaft)	• RP-QM90 models	
Pulleys	 RPA-P1-1  RPA-DP1-1	1 pc	RPA-P1-1 Pulley for in-line use	RPA-DP1-1 Pulley for corner turns (90-180°)	<ul style="list-style-type: none"> • RP-LM40 models • RP-LS42 models • RP-QM72/QMT72 models • RP-RM83 models • RP-QM90 models 	
Tensioning Springs		RPA-S1-1	1 pc	Tensioning Spring #1	• RP-QM90 models	
		RPA-S2-1	1 pc	Tensioning Spring #2	• RP-QM90 models	
		RPA-S3-1	1 pc	Tensioning Spring #3	<ul style="list-style-type: none"> • RP-LS42 models • RP-RM83 models 	
		RPA-S5-1	1 pc	Tensioning Spring #5	<ul style="list-style-type: none"> • RP-LS42 models • RP-RM83 models 	
		RPA-S4-1	1 pc	Tensioning spring assembly with built-in eye bolt, cable thimble, clamp, tensioning and overload protection		• RP-RM83 models
		RPA-S6-1	1 pc			• RP-RM83 models
Terminal Cover	SI-LS42-COVER	Replacement terminal cover		• RP-LS42 models		

