METALTEX

LINHA **M20**

M20 SERIES

BOTÕES DE COMANDO E SINALIZADORES METÁLICOS 22mm

22mm METALIC PUSH BUTTONS AND INDICATORS

ESPECIFICAÇÕES TÉCNICAS

TECHNICAL SPECIFICATIONS

PRINCIPAIS CARACTERÍSTICAS / *MAIN CHARACTERISTICS*

- Botão de comando para painel com furação de Ø22mm;
  Push button switches for panels with Ø22mm holes;
- Corpo metálico com alta resistência mecânica e ao calor;
  Metallic body with high mechanical and heat resistance;
- Grau de proteção IP40;
  IP40 protection degree;
- De acordo com a norma IEC 60947-5-1;
  According to IEC 60947-5-1;
- Certificado UL;
  UL approval;
- Diversos acessórios incluindo capas de proteção, identificadores, tapa furos, adaptadores de furo, lâmpadas e etc (vendidos separadamente);
  Various accessories including protective covers, identifiers, hole closer, hoje adapter, bulbs and etc (sold separately);

ESPECIFICAÇÕES GERAIS / *GENERAL SPECIFICATIONS*

Botões de comando e chaves seletoras / *Command buttons and selector switches*			
Modelos / *Models*		Iluminados / *illuminated*	Não Iluminados / *Not illuminated*
Grau de proteção / *Protection degree*		IP40 e IP66 (Com capa de silicone / *With silicone cover*)	
Material do corpo / *Body material*		Metal cromado / *Chrome-plated metal*	
Vida elétrica / *Electrical life*		1.000.000 operações / *operations*	
Umidade / *Humidity*		45% ~ 85% sem condensação / *45% ~ 85% non-condensing*	
Temperatura / *Temperature*		-5 ~ 40 °C	
Altitude / *Altitude*		< 2000m	
Grau de poluição / *Pollution degree*		Nível 3 / *Level 3*	
Normas / *Norms*		IEC 60947-5-1 / Certificado UL / *UL approval*	
Diâmetro de montagem / *Mounting diameter*		22,5mm	
Lâmpadas LED compatíveis (botões iluminação) *Compatible LED lamps (illuminated push button)*		Linha Metaltex L1 (soquete BA9s) *Metaltex type L1 (BA9s socket)*	-
Consumo de corrente *Current consumption*	12 VCC/VCA / *VDC/VAC*	3,5 mA	-
	24 VCC/VCA / *VDC/VAC*	7,5 mA	-
	110 VCC/VCA / *VDC/VAC*	3,8 mA	-
	220 VCC/VCA / *VDC/VAC*	2,8 mA	-

Bloco de contato / *Contact blocks*				
Modelo / *Model*	M20-1A	M20-1B	M20-1A/D	M20-1B/D
Grau de proteção / *Protection degree*	IP20			
Material do contato / *Contact material*	AgNi		AgNi + Flash Au	
Tensão de operação Ue / *Operation voltage Ue*	380 V			
Tensão de isolação Ui / *Insulation voltage Ui*	660 V			
Corrente nominal Ie / *Nominal current Ie*	AC-15: 6 A-120 V / 3 A-240 V / 5A-380 V DC-13: 2,7 A-24 V / 0,55 A-125 V / 0,27 A-250 V			
Corrente térmica Ith / *Thermal current Ith*	10 A			
Corrente de comutação mínima *Minimum switching current*	-		5 V/5 mA	
Resistência de contato inicial / *Initial contact resistance*	<50mΩ			
Vida elétrica / *Electrical life*	500.000 operações / *operations*			

CÓDIGO DE COMPRA / *HOW TO ORDER*

M20 IG R 2 - R 7 - 1A /D

Tipo / *Type*	
AF	Cabeçote plano (faceado)/ *Flush button*
AR	Cabeçote ressaltado (não faceado)/ *Non flush button*
IG	Cabeçote plano iluminado/ *Illuminated flush button*
AM	Cabeçote cogumelo Ø40mm / *Mushroom button Ø40mm*
AK	Cabeçote cogumelo Ø40mm com trava e giro para destravar /*Mushroom button Ø40mm push-lock twist-to-release*
AC	Cabeçote cogumelo Ø40mm com trava e chave para destravar / *Mushroom button Ø40mm push-lock and key-to-release*
BY	Cabeçote cogumelo Ø60mm com trava e giro para destravar *Mushroom button Ø60mm push-lock twist-to-release*
BE	Cabeçote cogumelo Ø40mm com trava e puxa para destravar / *Mushroom button Ø40mm push-lock pull to release*
AX	Cabeçote cogumelo Ø30mm com trava e giro para destravar *Mushroom button Ø30mm push-lock twist-to-release*
AP	Botão duplo* / *Twin button**
ID	Botão duplo iluminado* / *Illuminated twin push button**
SC	Chave seletora com knob curto / *Selector switches with short lever*
SL	Chave seletora com knob longo / *Selector switches with long lever*
KN	Chave seletora com chave e remoção em 0 *Selector switches with key operation withdrawable in 0 position*
IC	Chave seletora com knob iluminado *Illuminated selector with short lever*
P	Sinalizador (alimentação direta) / *Indicator (direct supply)*

Formato / *Shape*	
R	Redondo / *Round*
L	Retangular / *Rectangular*

Posição / *Position*		
Em branco *Nil*	Botão pulsador ou sinalizador *Push button or indicator*	
2	2 posições fixas 90° / *2 positions fixed 90°*	
3	2 posições retorno 90° / *2 positions return 90°*	
4	3 posições fixas 45° / *3 positions fixed 45°*	
5	3 posições 45° com retorno direita e esquerda fixa / *3 positions 45° with return right and left fixed*	
6	3 posições retorno esquerda 45° e direita fixa *3 positions return left 45° and right fixed*	
7	3 posições 45° com retorno direita e esquerda *3 positions 45° with right and left return*	

Material do contato / *Contact material*	
Em branco / *Nil*	AgNi
/D	AgNi + Flash Au

Contatos / *Contacts* (Outros arranjos sob consulta / *Other arrangements on inquiry*)	
Em branco / *Nil*	Sinalizador / *Indicator*
1A	1 NA / *NO*
1B	1 NF / *NC*
1C	1 NA + 1 NF / *NO + NC*
2A	2 NA / *NO*

Alimentação do LED / *LED power supply* (Apenas modelos iluminados / *Only illuminated model*)	
Em branco / *Nil*	220 VCC/VCA / *VDC/VAC*
7	24 VCC/VCA / *VDC/VAC*

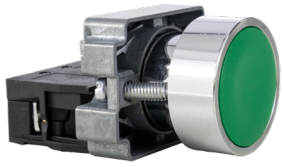
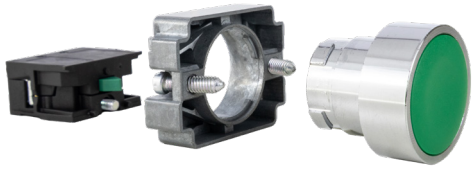
Cor / *Color*	
Em branco / *Nil*	Botão AP ou IT / *Button AP or IT*
B	Preto / *Black*
R	Vermelho / *Red*
G	Verde / *Green*
BL	Azul / *Blue*
Y	Amarelo / *Yellow*
W	Branco / *White*

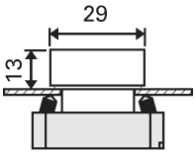
*Os botões de duplo toque têm como padrão os atuadores com as cores Verde / Vermelho, devendo-se assim indicar no momento da composição do código a opção em branco.
**Actuators of twin touch switches are standard as Green / Red. Please specify "Nil" in the code.*

Obs.: Nem todos os códigos possíveis estão disponíveis. Para todos os casos, blocos de contatos podem ser adicionados. (No máximo 8 blocos).
Todos os botões possuem modo de operação pulsador momentâneo, exceto botões de emergência (AK, BY, BE e AX), chaves seletoras e sinalizadores.
Not all possible codes are available. It is possible to add contact blocks for all types. (Max. 8 blocks).
All buttons have momentary pushbutton operation mode except emergency buttons (AK, BY, BE and AX), selector switches and indicators.

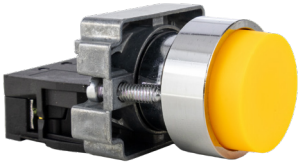
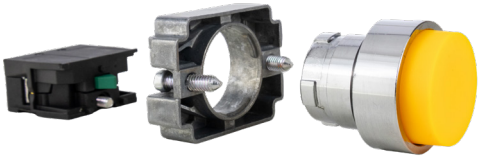
BOTÕES PULSADORES MOMENTÂNEOS / *MOMENTARY PUSH BUTTONS*

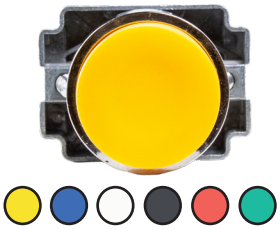
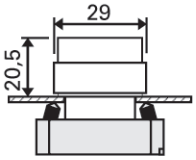
Cabeçote plano / *Flush push button*

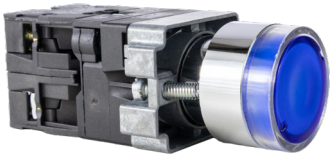
Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Amarelo / *Yellow*	1 NA / *NO*	M20AFR-Y-1A
		Azul / *Blue*	1 NA / *NO*	M20AFR-BL-1A
		Branco / *White*	1 NA / *NO*	M20AFR-W-1A
		Preto / *Black*	1 NA / *NO*	M20AFR-B-1A
			1 NF / *NC*	M20AFR-B-1B
		Vermelho / *Red*	1 NA / *NO*	M20AFR-R-1A
			1 NF / *NC*	M20AFR-R-1B
		Verde / *Green*	1 NA / *NO*	M20AFR-G-1A

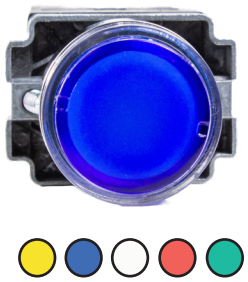
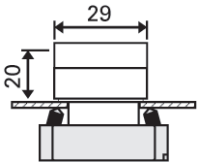
Cabeçote ressaltado (não faceado) / *Non flush button*

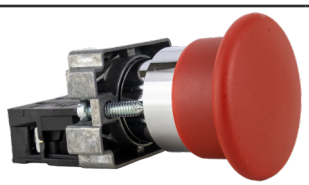
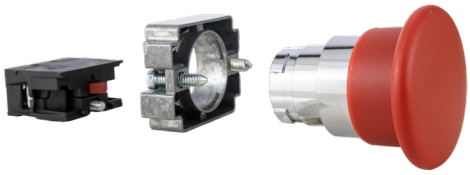
Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Amarelo / *Yellow*	1 NA / *NO*	M20ARR-Y-1A
		Azul / Blue	1 NA / *NO*	M20ARR-BL-1A
		Branco / *White*	1 NA / *NO*	M20ARR-W-1A
		Preto / *Black*	1 NA / *NO*	M20ARR-B-1A
		Vermelho / *Red*	1 NF / *NC*	M20ARR-R-1B
		Verde / *Green*	1 NA / *NO*	M20ARR-G-1A

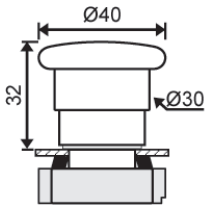
BOTÕES PULSADORES ILUMINADOS / *ILLUMINATED PUSH BUTTONS*



Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Tensão / *Voltage*	Código / *Code*
		Amarelo / *Yellow*	1 NA + 1 NF *NO + NC*	220 VCC/VCA / *VDC/VAC*	M20IGR-Y-1C
				24 VCA/VCC / *VAC/VDC*	M20IGR-Y7-1C
		Azul / *Blue*	1 NA + 1 NF *NO + NC*	220 VCC/VCA / *VDC/VAC*	M20IGR-BL-1C
				24 VCA/VCC / *VAC/VDC*	M20IGR-BL7-1C
		Branco / *White*	1 NA + 1 NF *NO + NC*	220 VCC/VCA / *VDC/VAC*	M20IGR-W-1C
				24 VCA/VCC / *VAC/VDC*	M20IGR-W7-1C
		Vermelho / *Red*	1 NA + 1 NF *NO + NC*	220 VCC/VCA / *VDC/VAC*	M20IGR-R-1C
				24 VCA/VCC / *VAC/VDC*	M20IGR-R7-1C
		Verde / *Green*	1 NA + 1 NF *NO + NC*	220 VCC/VCA / *VDC/VAC*	M20IGR-G-1C
				24 VCA/VCC / *VAC/VDC*	M20IGR-G7-1C

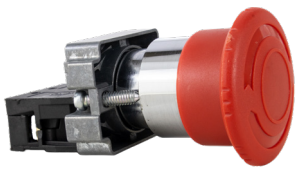
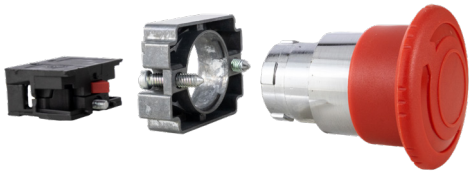
BOTÃO PULSADOR COGUMELO Ø40mm / *MUSHROOM PULSATOR PUSH BUTTON Ø40mm*

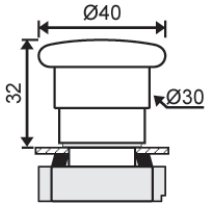



Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Amarelo / *Yellow*	1 NA / *NO*	M20AMR-Y-1A
			1 NF / *NC*	M20AMR-Y-1B
		Preto / *Black*	1 NA / *NO*	M20AMR-B-1A
			1 NF / *NC*	M20AMR-B-1B
			1 NA + 1 NF / *NO + NC*	M20AMR-B-1C
		Vermelho / *Red*	1 NA / *NO*	M20AMR-R-1A
			1 NF / *NC*	M20AMR-R-1B
			1 NA + 1 NF / *NO + NC*	M20AMR-R-1C
			2 NA + 2 NF / *NO + NC*	M20AMR-R-2C
		Verde / *Green*	1 NA / *NO*	M20AMR-G-1A
			1 NF / *NC*	M20AMR-G-1B
			1 NA + 1 NF / *NO + NC*	M20AMR-G-1C

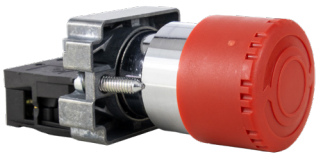
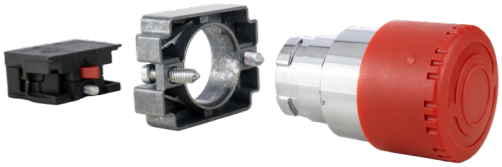
BOTÃO DE EMÊRGENCIA COGUMELO / *MUSHROOM EMERGENCY PUSH BUTTON*

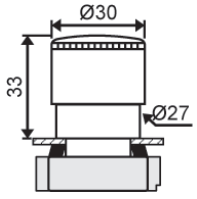
Trava e gira para destravar - Ø40mm / *Push-lock twist-to-release - Ø40mm*

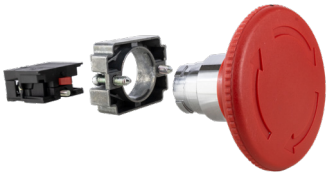
Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Vermelho / *Red*	1 NF / *NC*	M20AKR-R-1B

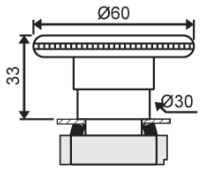
Trava e gira para destravar - Ø30mm / *Push-lock twist-to-release - Ø30mm*

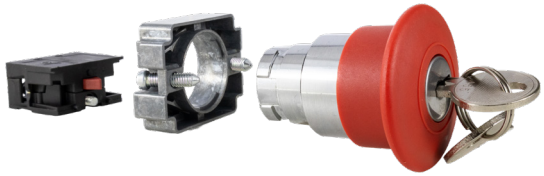
Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Vermelho / *Red*	1 NF / *NC*	M20AXR-R-1B

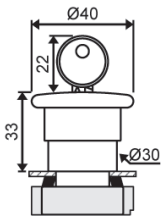
Trava e gira para destravar - Ø60mm / *Push-lock twist-to-release - Ø60mm*



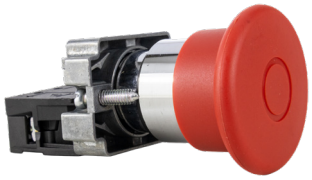
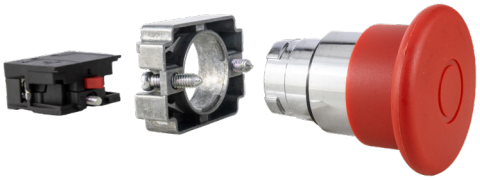
Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Vermelho / *Red*	1 NF / *NC*	M20BYR-R-1B

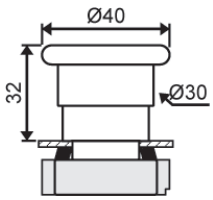
Trava e chave para destravar - Ø40mm / *Push-lock and key-to-release - Ø40mm*



Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Vermelho / *Red*	1 NF / *NC*	M20ACR-R-1B

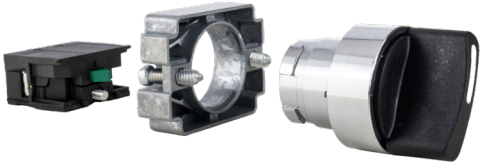
Trava e puxa para destravar - Ø40mm / *Push-lock and pull to release - Ø40mm*

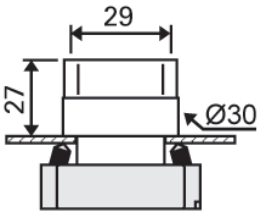



Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Vermelho / *Red*	1 NF / *NC*	M20BER-R-1B

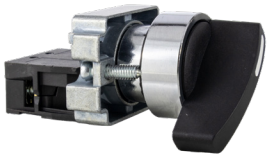
CHAVE SELETORA / *SELECTOR SWITCHES*

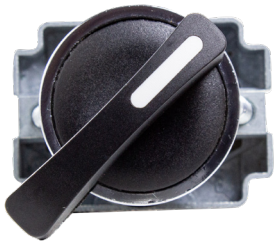
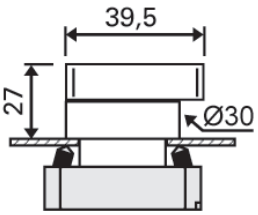
Knob curto / *Short knob*



Seletora / *Selector*	Dimensão / *Dimension* (mm)	Posições / *Position*	Contato / *Contact*	Código / *Code*
		2 posições fixas 90° *2 positions fixed 90°*	1 NA / *NO*	M20SCR2-B-1A
			1 NA + 1 NF / *NO + NC*	M20SCR2-B-1C
		2 posições retorno 90° *2 positions return 90°*	1 NA / *NO*	M20SCR3-B-1A
			1 NA + 1 NF / *NO + NC*	M20SCR3-B-1C
		3 posições fixas 45° *3 positions fixed 45°*	2 NA / *NO*	M20SCR4-B-2A
		3 posições 45° com retorno direita e esquerda fixa *3 positions 45° return and left fixed*	2 NA / *NO*	M20SCR5-B-2A
		3 posições com retorno esquerda 45° e direita fixa *3 positions return left 45° and right fixed*	2 NA / *NO*	M20SCR6-B-2A
		3 posições com retorno direita e esquerda 45° *3 return positions right and left 45°*	2 NA / *NO*	M20SCR7-B-2A

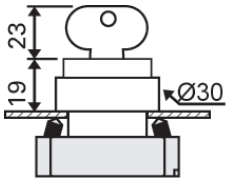
Knob longo / *Long knob*



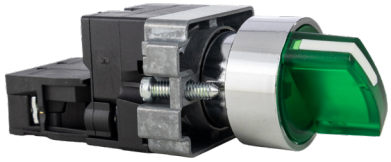
Seletora / *Selector*	Dimensão / *Dimension* (mm)	Posições / *Position*	Contato / *Contact*	Código / *Code*
		2 posições fixas 90° *2 positions fixed 90°*	1 NA / *NO*	M20SLR2-B-1A
			2 NA / *NO*	M20SLR2-B-2A
		2 posições retorno 90° *2 positions return 90°*	1 NA / *NO*	M20SLR3-B-1A
		3 posições fixas 45° *3 positions fixed 45°*	2 NA / *NO*	M20SLR4-B-2A
		3 posições retorno direita, esquerda 45° *3 right and left return positions 45°*	2 NA / *NO*	M20SLR7-B-2A

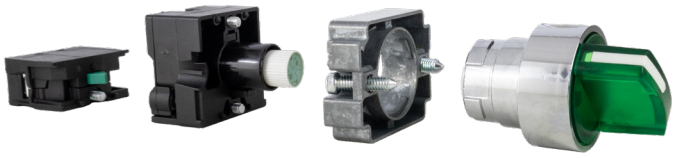
Seletora com chave / *Selector with key*

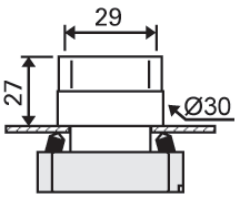
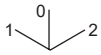
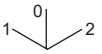
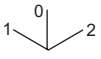
OBS.: As chaves só podem ser retiradas na posição 0 (zero) / *The keys can only be removed in position 0 (zero)*

Botão / *Button*	Dimensão / *Dimension* (mm)	Posições / *Position*	Contato / *Contact*	Código / *Code*
		2 posições fixas 90° *2 positions fixed 90°* 	1 NA / *NO*	M20KNR2-B-1A
		3 posições fixas 45° *3 positions fixed 45°* 	2 NA / *NO*	M20KNR4-B-2A

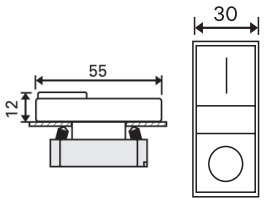
Knob curto iluminado / Illuminated *short knob*





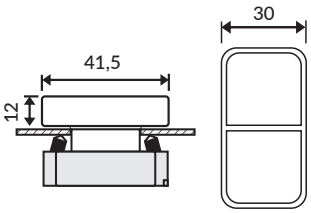
Seletora / *Selector*	Dimensão / *Dimension* (mm)	Cor / *Color*	Posições / *Position*	Contato *Contact*	Tensão / *Voltage*	Código / *Code*
		Amarelo *Yellow*	2 posições fixas 90° *2 positions fixed 90°* 	1 NA / *NO*	220 VCA/VCC *VAC/VDC*	M20ICR2-Y-1A
				1 NA / *NO*	24 VCA/VCC *VAC/VDC*	M20ICR2-Y7-1A
			3 posições fixas 45° *3 positions fixed 45°* 	2 NA / *NO*	220 VCA/VCC *VAC/VDC*	M20ICR4-Y-2A
				2 NA / *NO*	24 VCA/VCC *VAC/VDC*	M20ICR4-Y7-2A
		Vermelho *Red*	2 posições fixas 90° *2 positions fixed 90°* 	1 NA / *NO*	220 VCA/VCC *VAC/VDC*	M20ICR2-R-1A
				1 NA / *NO*	24 VCA/VCC *VAC/VDC*	M20ICR2-R7-1A
			3 posições fixas 45° *3 positions fixed 45°* 	2 NA / *NO*	220 VCA/VCC *VAC/VDC*	M20ICR4-R-2A
				2 NA / *NO*	24 VCA/VCC *VAC/VDC*	M20ICR4-R7-2A
		Verde *Green*	2 posições fixas 90° *2 positions fixed 90°* 	1 NA / *NO*	220 VCA/VCC *VAC/VDC*	M20ICR2-G-1A
				1 NA / *NO*	24 VCA/VCC *VAC/VDC*	M20ICR2-G7-1A
			3 posições fixas 45° *3 positions fixed 45°* 	2 NA / *NO*	220 VCA/VCC *AC/VDC*	M20ICR4-G-2A
				2 NA / *NO*	24 VCA/VCC *VAC/VDC*	M20ICR4-G7-2A

BOTÃO DUPLO ILUMINADO / *ILLUMINATED TWIN PUSH BUTTON*

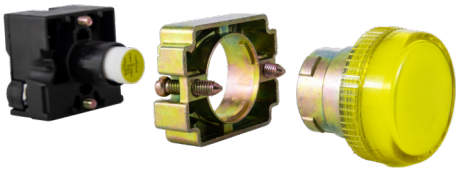
Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Tensão / *Voltage*	Código / *Code*
		Verde, amarelo (LED) e vermelho *Green, yellow (LED) and red*	1 NA + 1 NF *NO + NC*	220 VCA / *VAC*	M20IDL-Y-1C
				24 VCA/VCC / *VAC/VDC*	M20IDL-Y7-1C

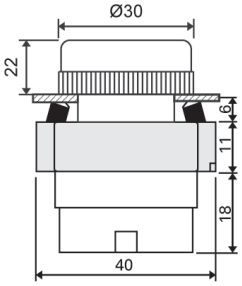
BOTÃO DUPLO / *TWIN BUTTON*

Acompanha capa protetora de silicone
With silicone protective cover

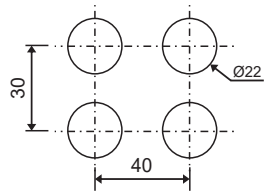
Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Contato / *Contact*	Código / *Code*
		Verde e vermelho *Green and red*	1 NA + 1 NF *NO + NC*	M20APL-1C

SINALIZADORES (ALIMENTAÇÃO DIRETA) / *INDICATOR (DIRECT SUPPLY)*

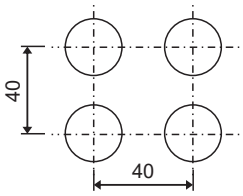


Botão / *Button*	Dimensão / *Dimension* (mm)	Cor / *Color*	Tensão / *Voltage*	Código / *Code*
		Amarelo / *Yellow*	220 VCA / *VAC*	M20PR-Y
			24 VCA/VCC / *VAC/VDC*	M20PR-Y7
		Azul / *Blue*	220 VCA / *VAC*	M20PR-BL
			24 VCA/VCC / *VAC/VDC*	M20PR-BL7
		Branco / *White*	220 VCA / *VAC*	M20PR-W
			24 VCA/VCC / *VAC/VDC*	M20PR-W7
		Vermelho / *Red*	220 VCA / *VAC*	M20PR-R
			24 VCA/VCC / *VAC/VDC*	M20PR-R7
		Verde / *Green*	220 VCA / *VAC*	M20PR-G
			24 VCA/VCC / *VAC/VDC*	M20PR-G7

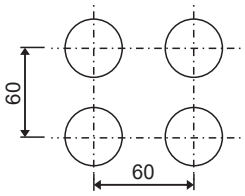
INSTALAÇÃO / *INSTALLATION*



Exceto botão cogumelo > Ø30mm
Except mushroom button > Ø30mm



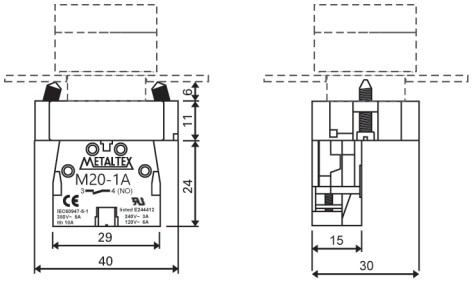
Botão cogumelo Ø40mm
Mushroom button Ø40mm



Botão cogumelo Ø60mm
Mushroom button Ø60mm

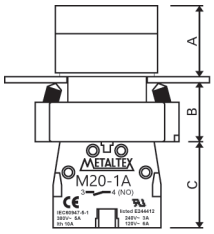
DIMENSÃO / *DIMENSION* (mm)

Botão não iluminado / *Button not illuminated*

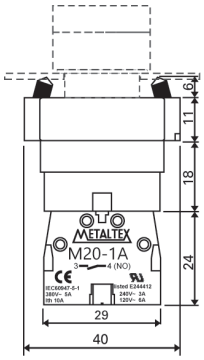


A dimensão total dos botões de comando é sempre composta pelo tamanho do atuador **(A)** + suporte de fixação **(B)** + bloco(s) de contato **(C)**

*Full dimension of mounted push buttons is composed by actuator **(A)** + mounting bracket **(B)** + contact block(s) **(C)***

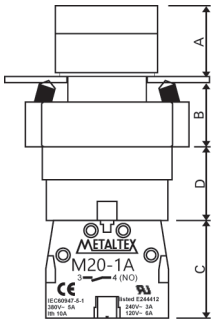


Botão iluminado / *Button illuminated*



A dimensão total dos botões de comando iluminado é sempre composta pelo tamanho do atuador **(A)** + suporte de fixação **(B)** + bloco(s) de contato **(C)** + bloco de alimentação do LED **(D)**

*Full dimension of mounted Illuminated push buttons is composed by actuator **(A)** + mounting bracket **(B)** + contact block(s) **(C)** + LED power supply unit **(D)***



ACESSÓRIOS / *ACCESSORIES*

Blocos de contato / *Contact blocks*

M20-1A

3 — 4

1 NA 5 A/380 V

M20-1B

⊖ 1 — 2

1 NF 5 A/380 V

M20-1A/D

3 — 4

1 NA 5 A/380 V

Contato dourado para baixas correntes

Golden contact for low currents

M20-1B/D

⊖ 1 — 2

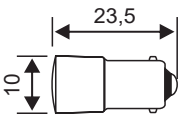
1 NF 5 A/380 V

Contato dourado para baixas correntes

Golden contact for low currents

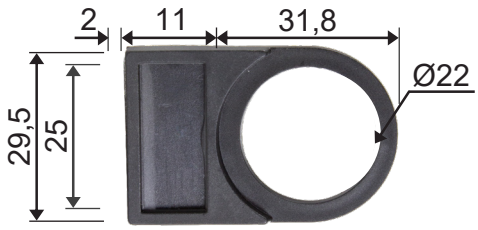
⊖ Ruptura positiva / *Positive break*

Lâmpadas / *Lamps*

Para soquetes BA9s *For BA9s socket*	Dimensões *Dimensions (mm)*	Cores *Colors*	12 VCC/VCA *VDC/VAC*		24 VCC/VCA *VDC/VAC*		110 VCC/VCA *VDC/VAC*		220 VCC/VCA *VDC/VAC*	
			Código *Code*	In	Código *Code*	In	Código *Code*	In	Código *Code*	In
		Amarelo *Yellow*	L1-9-Y	3,5 mA	L1-7-Y	7,5 mA	L1-1-Y	3,8 mA	L1-2-Y	2,8 mA
		Azul *Blue*	L1-9-BL		L1-7-BL		L1-1-BL		L1-2-BL	
		Branco *White*	L1-9-W		L1-7-W		L1-1-W		L1-2-W	
		Vermelho *Red*	L1-9-R		L1-7-R		L1-1-R		L1-2-R	
		Verde *Green*	L1-9-G		L1-7-G		L1-1-G		L1-2-G	

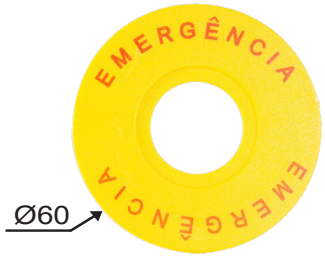
Identificadores / *Identifiers*

P20-ID



Identificador com porta etiqueta
Identifier with label holder

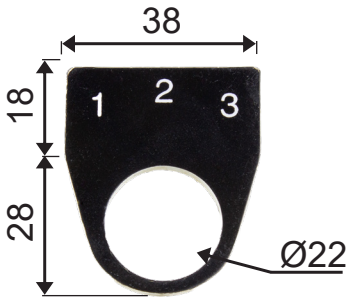
P20-IDEM



Identificador de emergência
Emergency identifier

Amarelo com gravação vermelha
Yellow with red writing

P20-ID123



Identificador para chave seletora 3 posições
Identifier for 3 positions selector switch

Preto com gravação branca
Black with white writing

Capa protetora de silicone / *Silicone protective cover*

P20-CAP1

Para modelos / *For models*
M20AF - M20IG

P20-CAP2

Para modelo / *For model*
M20IDL

P20-CAP3

Para modelo / *For model*
M20APL

Tapa furo Ø22mm / *Hole closer Ø22mm*

P20-TF

Tapa furo Ø22mm
Ø22mm hole closer

Adaptador para furo Ø30mm
Ø30mm hole adaptor

P20-ADP30

Usado em pares
Used in pairs

Bloco para função alternada / *Alternate function block*

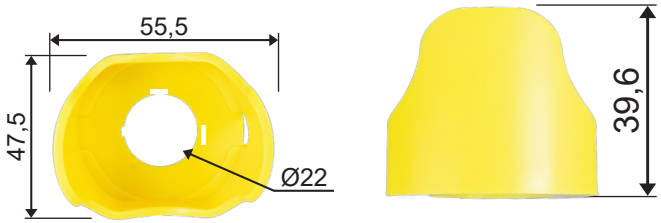
M20-RT

Para modelos / *For models*
M20AF - M20AR - M20AM

No máximo 2 blocos de contato podem ser adicionados
Up to contact blocks can be added
Não pode ser usado com botão iluminado
Cannot be used with illuminated button

Protetor plástico/ *Plastic protector*

P20-PA



Protetor plástico (PA66) amarelo para botão de emêrgencia
Yellow plastic protector (PA66) for emergency button

Visite o site: metaltex.com.br e conheça a linha completa de comando e sinalização.
Visit site: metaltex.com.br and discover the complete line of command and signaling.