

- Botões de comando para painel com furações de Ø22mm
- Diversas cores e modelos
- Grau de proteção IP40
- Certificado UL

- Push button switches for panels with Ø22mm holes
- Various colors and types
- IP40 protection degree
- UL approval



### Código de compra / How to order

**M20 IC R 2 - R 2 - 1A / D**

**Furo para fixação / Mounting hole**  
M20 - Ø22 mm Corpo metálico / Metallic body  
P20 - Ø22 mm Corpo plástico / Plastic body

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

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

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

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

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

**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

**Posição / Position**  
Branco / Nil - Botão pulsador ou sinalizador / Push button or Indicator  
2 - 2 pos. fixas 90° / fix <sub>1</sub>  
3 - 2 pos. retorno 90° / return <sub>1</sub>  
4 - 3 pos. fixas 45° / fix <sub>1 2</sub>  
5 - 3 pos. 45° retorno direita, esquerda fixa <sub>1 2</sub>  
right returns and left fix  
6 - 3 pos. 45° retorno esquerda, direita fixa <sub>1 2</sub>  
left returns and right fix  
7 - 3 pos. retorno da direita, esquerda 45° <sub>1 2</sub>  
with left and right returns

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.

\*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.

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.

\*Actuators of twin touch switches are standard as Green / Red. Please specify "Nil" in the code.

### Especificações / Specifications

Modelo / Model	M20-1A	M20-1B	M20-1A/D	M20-1B/D
Grau de proteção / Protection degree			IP 40	
Tensão de operação Ue / Operation voltage Ue			380V	
Tensão de isolamento Ui / Insulation voltage Ui			660V	
Umidade / Humidity	45% ~ 85% sem condensação / 45% ~ 85% without condensation			
Temperatura / Temperature	-5 ~ 40°C			
Corrente nominal Ie / Nominal current Ie	5A			
Corrente térmica Ith / Thermal current Ith	10A			
Corrente de comutação mínima / Minimum switching current	—		5V / 5mA	
Resistência de contato inicial / Initial contact resistance	<50mΩ			
Vida elétrica / Electrical life	500 x 10 operações / operations			
Vida Mecânica / Mechanical life	10 <sup>6</sup> operações / operations			
Material	AgNi		AgNi + Flash Au	

### Redondos / Round



M20AFR-B-1A  
M20AFR-R-1B  
M20AFR-G-1A  
M20AFR-Y-1A  
M20AFR-BL-1A  
M20AFR-W-1A



P20AFR-B-1A  
P20AFR-R-1B  
P20AFR-G-1A  
P20AFR-Y-1A  
P20AFR-BL-1A  
P20AFR-W-1A



M20ARR-B-1A  
M20ARR-R-1B  
M20ARR-G-1A  
M20ARR-Y-1A  
M20ARR-BL-1A  
M20ARR-W-1A



P20ARR-B-1A  
P20ARR-R-1B  
P20ARR-G-1A  
P20ARR-Y-1A  
P20ARR-BL-1A  
P20ARR-W-1A



M20IGR-R□-1C  
M20IGR-G□-1C  
M20IGR-Y□-1C  
M20IGR-BL□-1C  
M20IGR-W□-1C



P20IGR-R□-1C  
P20IGR-G□-1C  
P20IGR-Y□-1C  
P20IGR-BL□-1C  
P20IGR-W□-1C

### Iluminados / Illuminated

### Cogumelo / Mushroom



M20AMR-B-1A  
M20AMR-R-1B  
M20AMR-G-1A  
M20AMR-Y-1A



P20AMR-B-1A  
P20AMR-R-1B  
P20AMR-G-1A  
P20AMR-Y-1A



M20AKR-R-1B  
M20BYR-R-1B



P20AKR-R-1B  
P20BYR-R-1B



M20BER-R-1B



M20AXR-R-1B



P20AXR-R-1B



M20ACR-R-1B



P20ACR-R-1B

com chave  
with key

### Retangulares / Rectangular

#### Iluminados / Illuminated



M20APL-1C  
Acompanha capa protetora de silicone  
With silicone protective cover



P20APL-1C



M20IDL-Y□-1C



P20IDL-Y□-1C

### Sinalizadores / Indicators



M20PR-BL□  
M20PR-G□  
M20PR-R□  
M20PR-W□  
M20PR-Y□

Alimentação direta  
Direct supply

Acompanha lâmpada LED  
With LED lamp

### Chaves Seletoras / Selector Switches



M20SCR2-B-1A  
M20SCR3-B-1A  
M20SCR4-B-2A  
M20SCR5-B-2A  
M20SCR6-B-2A  
M20SCR7-B-2A



P20SCR2-B-1A  
P20SCR3-B-1A  
P20SCR4-B-2A  
P20SCR5-B-2A  
P20SCR6-B-2A  
P20SCR7-B-2A



M20SLR2-B-1A  
M20SLR3-B-2A  
M20SLR4-B-2A  
M20SLR7-B-2A



P20SLR2-B-1A  
P20SLR3-B-2A  
P20SLR4-B-2A  
P20SLR7-B-2A



M20ICR2-R□-1A  
M20ICR4-R□-2A  
M20ICR2-G□-1A  
M20ICR4-G□-2A  
M20ICR2-Y□-1A  
M20ICR4-Y□-2A



M20KNR2-B-1A  
M20KNR4-B-2A



P20KNR2-B-1A  
P20KNR4-B-2A

com chave  
with key

#### Iluminado / Illuminated


□=Tensão de alimentação do LED / LED power supply

Acessórios / Accessories

Blocos de contato / Contact blocks			
<p><b>M20-1A</b></p>  <p>3 — 4 1NA 5A/380V 1NO 5A/380V</p>	<p><b>M20-1B</b></p>  <p>1 — 2 1NF 5A/380V 1NC 5A/380V</p>	<p><b>M20-1A/D</b></p>  <p>3 — 4 1NA 5A/380V 1NO 5A/380V</p> <p>Contato dourado para baixas correntes Golden contact for low currents</p>	<p><b>M20-1B/D</b></p>  <p>1 — 2 1NF 5A/380V 1NC 5A/380V</p> <p>Contato dourado para baixas correntes Golden contact for low currents</p>

**Bloco para função alternada / Alternate function block**

**M20-RT**



Para modelos / For models  
M20AF P20AF  
M20AR P20AR  
M20IG P20IG  
M20AM P20AM

No máximo 2 blocos de contato podem ser adicionados  
Up to 2 contact blocks can be added

**Tapa furo / Hole closer**

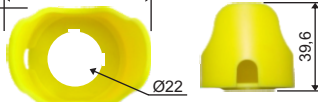
**P20-TF**



Tapa furo Ø22mm  
Ø22mm hole closer

**Protetor plástico / Plastic protector**

**P20-PA**



55,5  
47,5  
Ø22  
39,6

Protetor plástico amarelo para botão de emergência  
Yellow plastic protector for emergency button

Capa protetora de silicone / Silicone protective cover		
<p><b>P20-CAP1</b></p>  <p>Para modelos / For models M20AF P20AF M20IG P20IG</p>	<p><b>P20-CAP2</b></p>  <p>Para modelos / For models M20IDL P20IDL</p>	<p><b>P20-CAP3</b></p>  <p>Para modelos / For models M20APL P20APL</p>

**Adaptador de furo / Hole adapter**

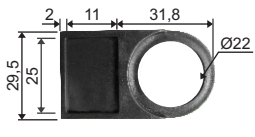

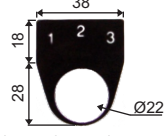
**P20-ADP30**



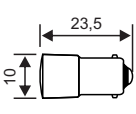
Ø22  
3,6

Usado em pares  
Used in pairs

Adaptador para furo Ø30mm  
Ø30mm hole adaptor

Identificadores / Identifiers		
<p><b>P20-ID</b></p>  <p>2 11 31,8 29,5 25 Ø22</p> <p>Identificador com porta etiqueta Identifier with label holder</p>	<p><b>P20-IDEM</b></p> <p>Amarelo com gravação vermelha Yellow with red writing</p>  <p>Ø60</p> <p>Identificador de emergência Emergency identifier</p>	<p><b>P20-ID123</b></p> <p>Preto com gravação branca Black with white writing</p>  <p>38 18 2 3 28 Ø22</p> <p>Identificador p/ chave seletora 3 posições Identifier for 3 positions selector switch</p>

Lâmpadas / Lamps									
Cores / Colors	12VCC/VCA / VDC/VAC		24VCC/VCA / VDC/VAC		110VCC/VCA / VDC/VAC		220VCC/VCA / VDC/VAC		
	Código / Code	In	Código / Code	In	Código / Code	In	Código / Code	In	
Vermelho / Red	L1-9-R	3,5mA	L1-7-R	7,5mA	L1-1-R	3,8mA	L1-2-R	2,8mA	
Verde / Green	L1-9-G	3,5mA	L1-7-G	7,5mA	L1-1-G	3,8mA	L1-2-G	2,8mA	
Azul / Blue	L1-9-BL	3,5mA	L1-7-BL	7,5mA	L1-1-BL	3,8mA	L1-2-BL	2,8mA	
Amarelo / Yellow	L1-9-Y	3,5mA	L1-7-Y	7,5mA	L1-1-Y	3,8mA	L1-2-Y	2,8mA	
Branco / White	L1-9-W	3,5mA	L1-7-W	7,5mA	L1-1-W	3,8mA	L1-2-W	2,8mA	



23,5  
Ø

Para soquete BA9s  
For BA9s socket

Dimensões / Dimensions: mm

Dimensões / Dimensions (mm)

M20 - Metálico / Metallic		P20 - Plástico / Plastic	
Não iluminado / Non-illuminated	Iluminado / Illuminated	Não iluminado / Non-illuminated	Iluminado / Illuminated
<p>Technical drawing of a non-illuminated metallic push button switch. Dimensions: width 40mm, height 24mm, base width 29mm, button diameter 30mm, button height 11mm.</p>	<p>Technical drawing of an illuminated metallic push button switch. Dimensions: width 40mm, height 24mm, base width 29mm, button diameter 30mm, button height 11mm, and a 6mm wide illuminated area at the top.</p>	<p>Technical drawing of a non-illuminated plastic push button switch. Dimensions: width 40mm, height 24mm, base width 29mm, button diameter 30mm, button height 7mm.</p>	<p>Technical drawing of an illuminated plastic push button switch. Dimensions: width 40mm, height 24mm, base width 29mm, button diameter 30mm, button height 7mm, and a 7mm wide illuminated area at the top.</p>

Redondos / Round					
<p>Technical drawing of a round metallic push button switch. Dimensions: diameter 29mm, height 13mm.</p>	<p>Technical drawing of a round plastic push button switch. Dimensions: diameter 29.5mm, height 12mm.</p>	<p>Technical drawing of a round metallic push button switch with a raised rim. Dimensions: diameter 29mm, height 20.5mm.</p>	<p>Technical drawing of a round plastic push button switch with a raised rim. Dimensions: diameter 29.5mm, height 20mm.</p>	<p>Technical drawing of a round metallic push button switch with a raised rim. Dimensions: diameter 29mm, height 20mm.</p>	<p>Technical drawing of a round plastic push button switch with a raised rim. Dimensions: diameter 29.5mm, height 19.5mm.</p>

Cogumelo / Mushroom								
<p>Technical drawing of a mushroom metallic push button switch. Dimensions: diameter 40mm, height 33.5mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom plastic push button switch. Dimensions: diameter 40mm, height 33mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom metallic push button switch. Dimensions: diameter 40mm, height 32mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom metallic push button switch. Dimensions: diameter 30mm, height 33mm, base diameter 27mm.</p>	<p>Technical drawing of a mushroom plastic push button switch. Dimensions: diameter 30mm, height 33mm, base diameter 27mm.</p>	<p>Technical drawing of a mushroom metallic push button switch. Dimensions: diameter 40mm, height 33mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom plastic push button switch. Dimensions: diameter 40mm, height 31.5mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom plastic push button switch with a circular arrow symbol. Dimensions: diameter 60mm, height 33mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom metallic push button switch with a circular arrow symbol. Dimensions: diameter 60mm, height 33mm, base diameter 30mm.</p>

Chaves Seletoras / Selector Switches						
<p>Technical drawing of a selector switch with a 2-position lever. Dimensions: diameter 29mm, height 27mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch with a 2-position lever. Dimensions: diameter 29mm, height 27mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch with a 2-position lever. Dimensions: diameter 39.5mm, height 27mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch with a 2-position lever. Dimensions: diameter 39.5mm, height 27mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch with a 2-position lever. Dimensions: diameter 29mm, height 23mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch with a 2-position lever. Dimensions: diameter 29mm, height 23mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch with a 2-position lever. Dimensions: diameter 29mm, height 27mm, base diameter 30mm.</p>

Retangulares / Rectangular			
<p>Technical drawing of a rectangular metallic push button switch. Dimensions: width 41.5mm, height 30mm, base width 12mm.</p>	<p>Technical drawing of a rectangular plastic push button switch. Dimensions: width 40mm, height 30mm, base width 12.5mm.</p>	<p>Technical drawing of a rectangular metallic push button switch. Dimensions: width 55mm, height 30mm, base width 12mm.</p>	<p>Technical drawing of a rectangular plastic push button switch. Dimensions: width 55mm, height 30mm, base width 12mm.</p>

Sinalizador / Indicators
<p>Technical drawing of a rectangular indicator button. Dimensions: width 30mm, height 22mm.</p>

Dimensões / Dimensions (mm)

Instalação / Installation		
Exceto botão cogumelo >Ø30mm Except mushroom button >Ø30mm	Botão cogumelo Ø40mm Mushroom button Ø40mm	Botão cogumelo Ø60mm Mushroom button Ø60mm

Instruções / Instructions

	Dimensões do atuador Button dimensions	Dimensões dos blocos Block dimensions	Dimensões do atuador+blocos Button+Blocks dimensions	
<b>Para botões normais</b> For standard buttons				<p>A dimensão total dos botões de comando é sempre composta pelo tamanho do atuador (A) + suporte de fixação (B) + bloco(s) de contato (C) + bloco de alimentação do LED (D)</p> <p>Full dimension of mounted push buttons is composed by actuator (A) + mounting bracket (B) + contact block(s) (C) + LED power supply unit (D)</p> <p>Veja dimensões na página 118 e 119 See dimensions at page 118 and 119</p>
<b>Para botões iluminados</b> For illuminated buttons				