

- Botões de comando para painel com furações de Ø22mm
 - Corpo termoplástico auto-extinguível ou metálicos com alta resistência mecânica e ao calor
 - Diversas cores e modelos
 - Grau de proteção IP40
 - De acordo com a norma IEC 60947-5-1
 - Certificado UL
- Push button switches for panels with Ø22mm holes
 - Self-extinguishing thermoplastic or metallic body with high mechanical and heat resistance
 - Various colors and types
 - IP40 protection degree
 - According to IEC 60947-5-1
 - 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
3 - 2 pos. retorno 90° / return
4 - 3 pos. fixas 45° / fix
5 - 3 pos. 45° retorno direita, esquerda fixa
right returns and left fix
6 - 3 pos. 45° retorno esquerda, direita fixa
left returns and right fix
7 - 3 pos. retorno da direita, esquerda 45°
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	AC-15: 6A-120V / 3A-240V / 5A-380V DC-13: 2,7A-24V / 0,55A-125V / 0,27A-250V			
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 ⁶ 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

Iluminado / Illuminated



M20KNR2-B-1A
M20KNR4-B-2A
M20KSR7-B-2A

com chave
with key



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

□=Tensão de alimentação do LED / LED power supply

Acessórios / Accessories

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

Bloco para função alternada / Alternate function block

M20-RT



Para modelos / For models
 M20AF P20AF
 M20AR P20AR
 M20AM P20AM

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

Tapa furo / Hole closer

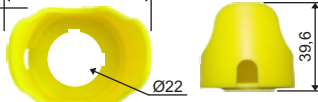
P20-TF



Tapa furo Ø22mm
 Ø22mm hole closer

Protetor plástico / Plastic protector

P20-PA



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

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

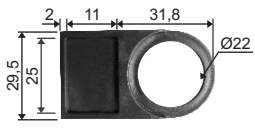

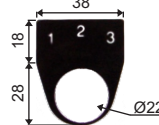
Adaptador de furo / Hole adapter

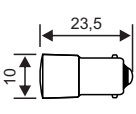
P20-ADP30



Usado em pares
 Used in pairs

Adaptador para furo Ø30mm
 Ø30mm hole adaptor

Identificadores / Identifiers		
P20-ID  Identificador com porta etiqueta Identifier with label holder	P20-IDEM Amarelo com gravação vermelha Yellow with red writing  Identificador de emergência Emergency identifier	P20-ID123 Preto com gravação branca Black with white writing  Identificador p/ chave seletora 3 posições Identifier for 3 positions selector switch

Lâmpadas / Lamps									
 Para soquete BA9s For BA9s socket Dimensões / Dimensions: mm	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

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, mounting hole diameter 15mm, and a 1.6mm protrusion at the top.</p>	<p>Technical drawing of an illuminated metallic push button switch. Dimensions: width 40mm, height 24mm, base width 29mm, mounting hole diameter 15mm, and a 1.6mm protrusion at the top.</p>	<p>Technical drawing of a non-illuminated plastic push button switch. Dimensions: width 40mm, height 24mm, base width 29mm, mounting hole diameter 15mm, and a 7.4mm protrusion at the top.</p>	<p>Technical drawing of an illuminated plastic push button switch. Dimensions: width 40mm, height 24mm, base width 29mm, mounting hole diameter 15mm, and a 7.4mm protrusion at the top.</p>

Redondos / Round					
<p>Technical drawing of a round metallic push button switch (M20AF). Dimensions: diameter 29mm, height 13mm.</p>	<p>Technical drawing of a round plastic push button switch (P20AF). Dimensions: diameter 29.5mm, height 12mm.</p>	<p>Technical drawing of a round metallic push button switch (M20RR). Dimensions: diameter 29mm, height 20.5mm.</p>	<p>Technical drawing of a round plastic push button switch (P20RR). Dimensions: diameter 29.5mm, height 20mm.</p>	<p>Technical drawing of a round metallic push button switch (M20IG). Dimensions: diameter 29mm, height 20mm.</p>	<p>Technical drawing of a round plastic push button switch (P20IG). Dimensions: diameter 29.5mm, height 19.5mm.</p>

Cogumelo / Mushroom								
<p>Technical drawing of a mushroom metallic push button switch (M20AM). Dimensions: diameter 40mm, height 33.5mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom plastic push button switch (P20AM). Dimensions: diameter 40mm, height 31.5mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom metallic push button switch (M20BE). Dimensions: diameter 40mm, height 32mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom metallic push button switch (M20AX). Dimensions: diameter 30mm, height 33mm, base diameter 27mm.</p>	<p>Technical drawing of a mushroom plastic push button switch (P20AX). Dimensions: diameter 30mm, height 33mm, base diameter 27mm.</p>	<p>Technical drawing of a mushroom metallic push button switch (M20AC). Dimensions: diameter 40mm, height 33mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom plastic push button switch (P20AC). Dimensions: diameter 40mm, height 31.5mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom plastic push button switch (P20BY). Dimensions: diameter 60mm, height 33mm, base diameter 30mm.</p>	<p>Technical drawing of a mushroom metallic push button switch (M20BY). Dimensions: diameter 60mm, height 33mm, base diameter 30mm.</p>

Chaves Seletoras / Selector Switches						
<p>Technical drawing of a selector switch (M20SC). Dimensions: diameter 29mm, height 27mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch (P20SC). Dimensions: diameter 29mm, height 27mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch (M20SL). Dimensions: diameter 39.5mm, height 27mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch (P20SL). Dimensions: diameter 39.5mm, height 27mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch (M20KN). Dimensions: diameter 29mm, height 19mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch (P20KN). Dimensions: diameter 29mm, height 19mm, base diameter 30mm.</p>	<p>Technical drawing of a selector switch (M20IC). Dimensions: diameter 29mm, height 27mm, base diameter 30mm.</p>

Retangulares / Rectangular			
<p>Technical drawing of a rectangular metallic push button switch (M20AP). Dimensions: height 30mm, width 41.5mm, base height 12mm.</p>	<p>Technical drawing of a rectangular plastic push button switch (P20AP). Dimensions: height 30mm, width 40mm, base height 12.5mm.</p>	<p>Technical drawing of a rectangular metallic push button switch (M20ID). Dimensions: height 30mm, width 55mm, base height 12mm.</p>	<p>Technical drawing of a rectangular plastic push button switch (P20ID). Dimensions: height 30mm, width 55mm, base height 12mm.</p>

Sinalizador / Indicators
<p>Technical drawing of an indicator switch (M20PR). Dimensions: diameter 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	
Para botões normais 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>
Para botões iluminados For illuminated buttons				