

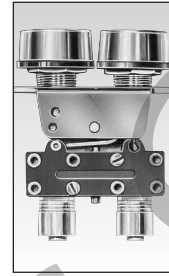
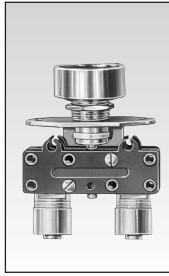
# Man/machine interface components

**EC** Crouzet

Products and specifications subject to change without notice.

# Manual Control Valves for 1/2" (12mm) hole size

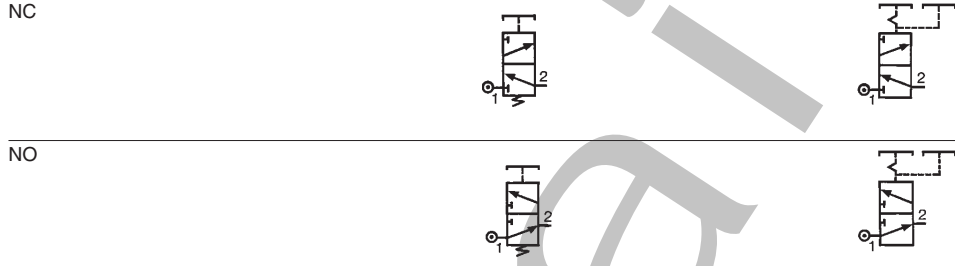
ORDER ONLINE



## Part Number

Features		Round push button	Round double push button
Version	NC	black <b>81 735 511</b>	—
		red <b>81 735 512</b>	—
		black/red —	<b>81 733 511</b>
NO		black <b>81 735 011</b>	—
		red —	—
		black/red —	—

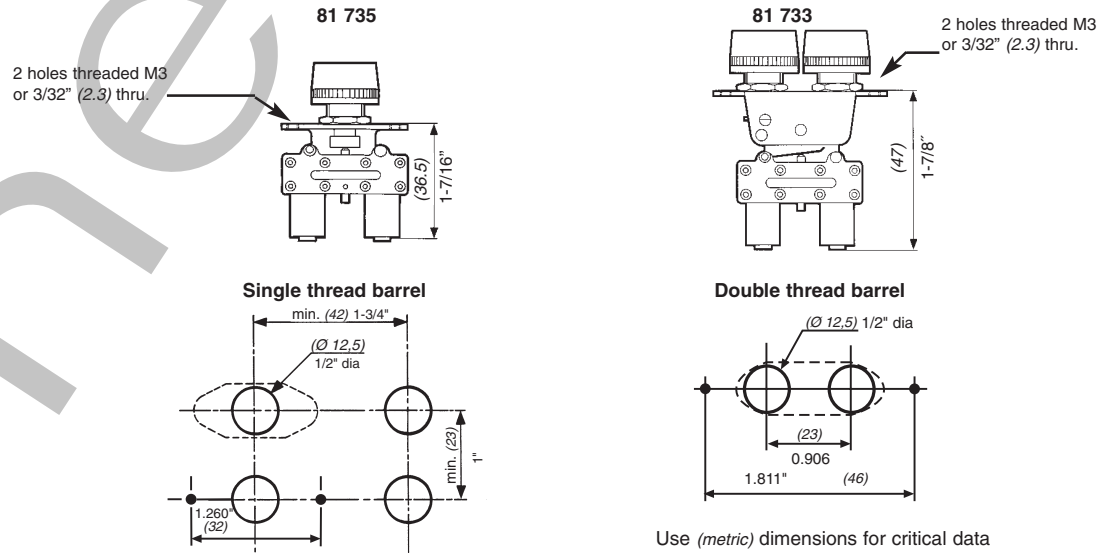
## Symbol



## Characteristics

Operating Pressure	PSI (bar)	30 > 120 (2 > 8)	30 > 120 (2 > 8)
Internal orifice	inches (mm)	0.106" (2.7)	0.106" (2.7)
Flow @ 90 PSI (6 bar)	cfm (Nm <sup>3</sup> /h)	7 (200)	7 (200)
Valve	NC : black NO : grey	●	●
Operating force	lbs. (N)	2 > 4 (8 > 18)	2 > 4 (8 > 18)
Effective travel	inches (mm)	0.04 (1)	0.04 (1)
Fluid: dry or lubricated air		●	●
Push-in connection for semi-rigid tubing O.D. (NFE 49100)	inches (mm)	5/32" (4)	5/32" (4)
Operating temperature	°F (°C)	+20 > +120 (-5 > +50)	+20 > +120 (-5 > +50)
Mechanical life		1.5 million	1.5 million
Weight	grams	35	35

## Dimensions

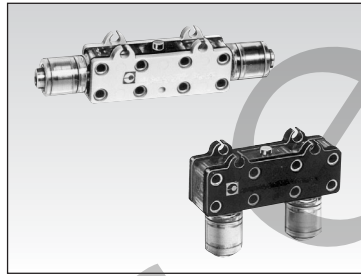
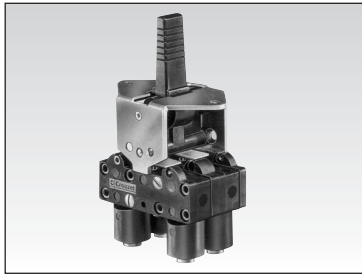
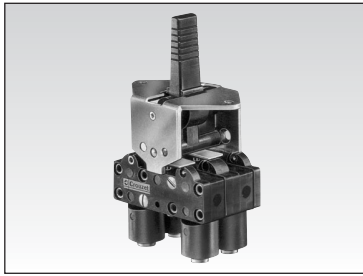


## Other Information

on request

Part Numbers. : 81 702 011 / 511 - 81 715 012 - 81 716 011 / 012 - 81 731 011 / 511 - 81 733 011  
81 734 011 / 012 / 511 / 512 - 81 735 012 - 81 752 012 / 512

Products and specifications subject to change without notice.



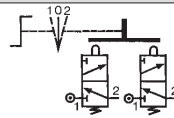
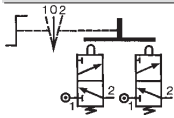
1

3 position manual return lever
<b>81 716 511</b>
<b>81 716 512</b>
—
—
—
—

3 position spring centered lever
<b>81 715 511</b>
<b>81 715 512</b>
—
—
—
—

horizontal output replacement valve
<b>81 280 510</b>
—
—
<b>81 280 010</b>
—
—

vertical output replacement valve
<b>81 281 510</b>
—
—
<b>81 281 010</b>
—
—



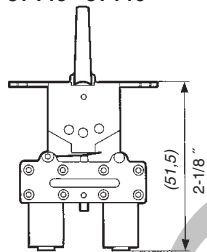
30 > 120 (2 > 8)
0.106" (2.7)
7 (200)
•
•
2 > 4 (8 > 18)
0.04 (1)
•
•
5/32" (4)
+20 > +120 (-5 > +50)
1.5 million
65

30 > 120 (2 > 8)
0.106" (2.7)
7 (200)
•
•
2 > 4 (8 > 18)
0.04 (1)
•
•
5/32" (4)
+20 > +120 (-5 > +50)
1.5 million
65

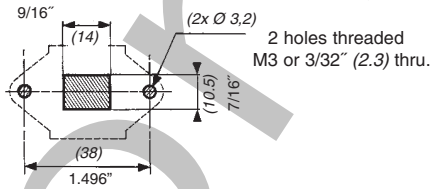
30 > 120 (2 > 8)
0.106" (2.7)
7 (200)
•
•
3 > 1/8 (15)
0.04 (1)
•
•
5/32" (4)
+20 > +120 (-5 > +50)
1.5 million
14

30 > 120 (2 > 8)
0.106" (2.7)
7 (200)
•
•
3 > 1/8 (15)
0.04 (1)
•
•
5/32" (4)
+20 > +120 (-5 > +50)
1.5 million
14

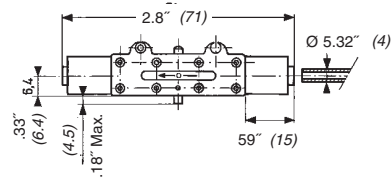
81 715 - 81 716



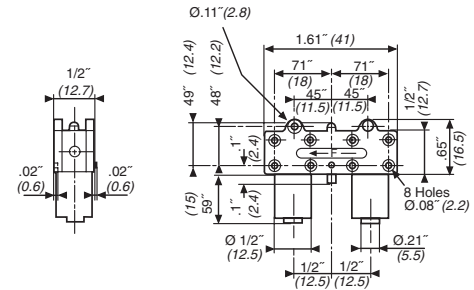
Lever cut-out



81 280 010 - 81 280 510



81 281 010 - 81 281 510



Use (metric) dimensions for critical data

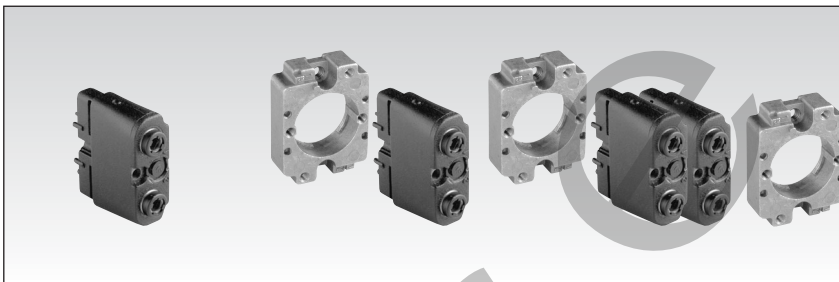
To order, specify:

<input type="checkbox"/> Standard product	<b>1</b> Part number
<input type="checkbox"/> Standard product not stocked	Example: Round push button in black-81 735 511

Products and specifications subject to change without notice.

# 3/2 valves for manual actuators (Ø 22 mm)

ORDER ONLINE

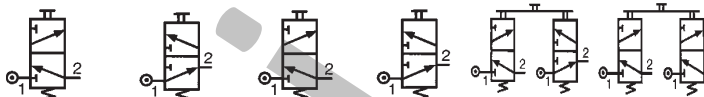


1

## Part numbers

3/2 valve supplied with screws for fixing the adaptor	Connection Ø 4 1/8 BSP	<b>89 544 501</b>	<b>89 544 001</b>	—	—	—	—	—
3/2 valve (module and adaptor)	Connection Ø 4	—	—	<b>89 545 105</b>	<b>89 545 005</b>	<b>89 545 305</b>	<b>89 545 205</b>	—
Adaptor for 3/2 valve on actuators Ø 22		—	—	—	—	—	—	<b>24 679 701</b>
Version		NC	NO	NC	NO	NC + NO	NC + NC	

## Symbol

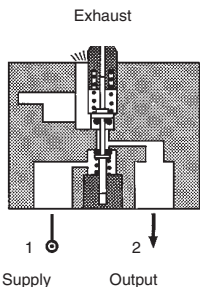


## Characteristics

Operating pressure	bar	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	0 → 10	—
Orifice diameter	mm	2	2	2	2	2	2	—
Flow at 4 bars	NI/min	90	90	90	90	90	90	—
Control force	N	12.6	12.6	12.6	12.6	12.6	12.6	—
Operating temperature in dry air	°C	-10 +60	-10 +60	-10 +60	-10 +60	-10 +60	-10 +60	—
Life	operations	1.5 x 10 <sup>6</sup>	1.5 x 10 <sup>6</sup>	1.5 x 10 <sup>6</sup>	1.5 x 10 <sup>6</sup>	1.5 x 10 <sup>6</sup>	1.5 x 10 <sup>6</sup>	—
Non-connectable exhaust		●	●	●	●	●	●	—
Weight	g	50	50	60	60	110	110	40

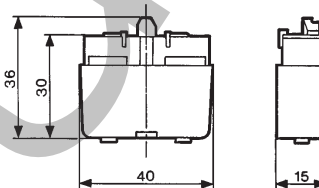
## Principle of operation

### NC version

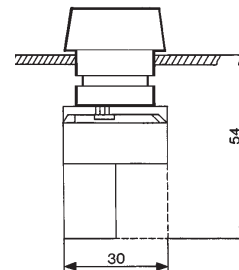


## Dimensions

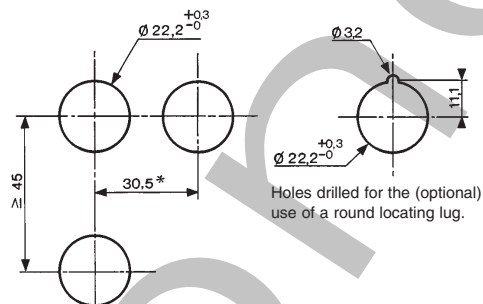
89 544 001 - 89 544 201  
89 544 501 - 89 544 701



## Ø 22 series



## Holes drilled in panel for actuators Ø 22 EN 50007

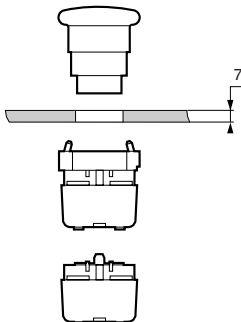


Holes drilled for the (optional) use of a round locating lug.

\* > 40 Ø 40 push-buttons

\* > 45 for lever type rotary switches

## Installation



## To order, specify:

Standard products

Standard products,  
non stocked

1

Part number

Example : Valve module 89 544 501

Products and specifications subject to change without notice.

# Actuators (Ø 22 mm) for manually operated valves

ORDER ONLINE



## Part numbers

Push buttons	Red Green Black	24 679 129 24 679 128 24 679 127	24 679 173 — 24 679 172	24 679 171 — —	— — —
2-position rotary switches		—	—	—	24 679 174
3-position rotary switches		—	—	—	—
Function		Flush push contact	Emergency stop plastic Ø 40	Emergency stop Ø 40 mm push-turn	Black symmetrical actuator

## Symbol



## Position

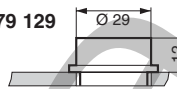


Weight	g	30	45	45	45
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## Dimensions

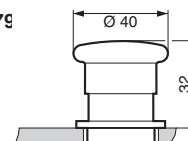
24 679 127 - 24 679 128

24 679 129



24 679 171 - 24 679 172

24 679



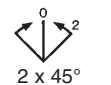
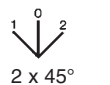
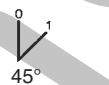
## Part numbers

2-position rotary switches	24 679 180	24 679 176	24 679 178	24 679 182	24 679 181
3-position rotary switches	—	—	—	—	—
Function	RONIS key 455 removable in position 0	Black symmetrical actuator	Black symmetrical actuator with return	RONIS key 455 remov. in pos. 0 3 positions with spring to centre	RONIS key 455 removable in position 0 3 fixed positions

## Symbol



## Position

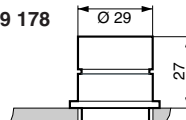


Weight	70	45	45	70	70
--------	----	----	----	----	----

## Dimensions

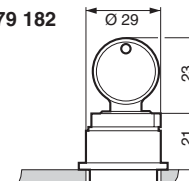
24 679 174 - 24 679 176

24 679 178



24 679 180 - 24 679 181

24 679 182



## To order, specify:

Standard products

**1** Part number

Example : Actuators Ø 22 mm 24 679 129

Products and specifications subject to change without notice.

# Pneumatic 2-hand control

**Conforms to the Machinery Directive**



## Definition (conforming to EN 574)

A pneumatic 2-hand control device is used with dangerous machinery and requires the simultaneous use of both hands to trigger and maintain machine operation. Such a device must be located outside the dangerous zone, so that the operator cannot enter this zone before the machine has come to a complete standstill.

A pneumatic 2-hand control device is composed of 2 parts :

- 2 manual pushbuttons which require the simultaneous use of both hands.
- A pneumatic relay.

### Types of 2-hand control devices

Requirements	Type				
	I	II	III		
			A	B	C
Use of both hands (simultaneous actuation)	●	●	●	●	●
Relationship between input signals and output signal	●	●	●	●	●
Cessation of the output signal	●	●	●	●	●
Prevention of accidental operation	●	●	●	●	●
Prevention of defeat	●	●	●	●	●
Reinitiation of the output signal		●	●	●	●
Synchronous actuation			●	●	●
Use of category 1 (EN 954-1)	●		●		
Use of category 3 (EN 954-1)		●		●	
Use of category 4 (EN 954-1)					●

**Category 1 (EN 954-1)** : the system should use well tried components and principles.

**Category 3 (EN 954-1)** : the system must be designed so that a single fault will not cause the loss of the safety function.

**Category 4 (EN 954-1)** : the system must be designed so that an accumulation of faults must not lead to a loss of the safety function.

## Synchronous action

An output signal is only generated if both control actuating devices are actuated within 500 ms.

## Resetting the output signal

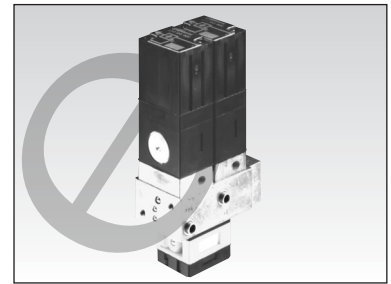
The release of a single control device interrupts the output signal, but a reset is only possible once both control devices have been released.

Products and specifications subject to change without notice.

# Pneumatic relay for two-hand control

ORDER  
ONLINE

- Conforms to the Machinery Directive
- CE Test Certificate type



## Part numbers

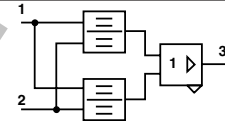
Pneumatic relay for two-hand control  
EN 574 classification  
CE Test Certificate type

**81 580 101**  
III A  
0526 520 1690 0197

**81 580 202**  
III B  
0526 520 1692 0197

1

## Symbol

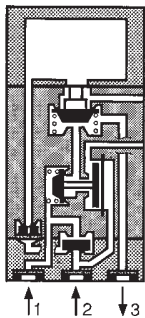


## Characteristics

Operating pressure	psi (bar)	30 > 120 (2 > 8)	30 > 120 (2 > 8)
Orifice diameter	inches (mm)	0.1" (2.5)	0.1" (2.5)
Max. delay between input signals	s	0.2 max.	0.2 max.
Connection		Sub-base 81 532 001	Semi-rigid tubing Ø 4 (NFE 49100)
Operating temperature	°C	-5 +50	-5 +50
Mechanical life	operations	10 <sup>7</sup>	10 <sup>7</sup>
Weight	g	90	320

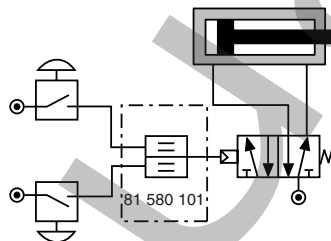
## Principle of operation

81 580 101



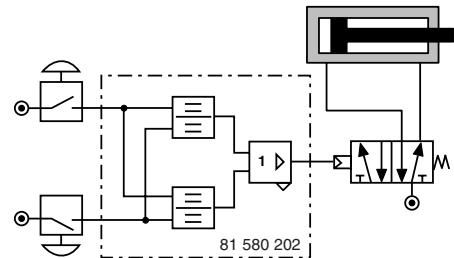
## Connections (Typical application with double-acting cylinder)

81 580 101



Components follow current standards

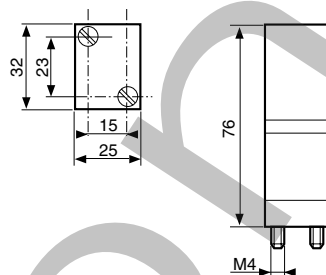
81 580 202



To obtain an output signal it is necessary to give simultaneous input signals 'a' and 'b' with a max. delay of 0.45. The output signal 's' is lost if one or both of the inputs are removed.

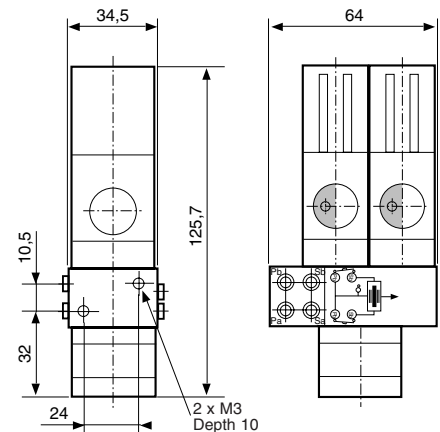
## Dimensions

81 580 101



Mounted on sub-base 81 532 001  
(See page 5/44 and 5/45 of Pneumatic catalogue)

81 580 202



## Other information

## To order, specify:

Standard products

1

Part number

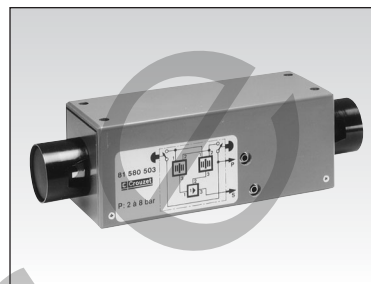
Example : Pneumatic 2-hand control - 81 580 101

5

Products and specifications subject to change without notice.

# Two-hand pneumatic safety start module

- Conforms to the Machinery Directive and standard EN 574
- Including pneumatic relay to classification IIIA or IIIB depending on version



## Part numbers

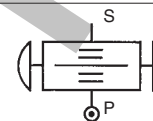
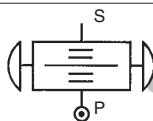
Two-hand pneumatic safety start module  
Pneumatic relay (to EN 574)

**81 580 504**  
Type III A

**81 580 503**  
Type III B

1

## Symbol

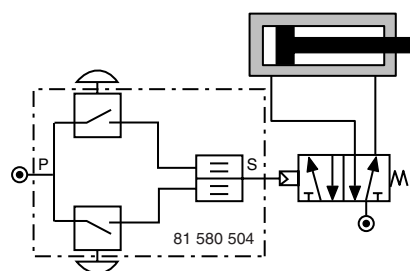


## Characteristics

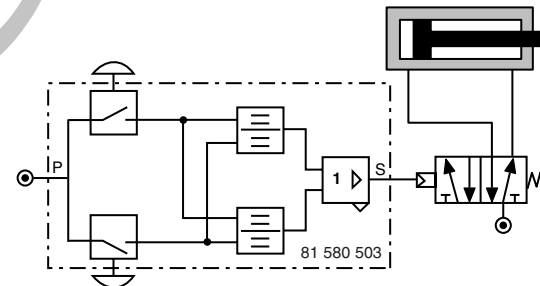
Operating pressure	psi (bar)	30 > 120 (2 > 8)	30 > 120 (2 > 8)
Orifice diameter	inches (mm)	0.1" (2.5)	0.1" (2.5)
Max. delay between input signals	s	0.2 max.	0.2 max.
Connection		Semi-rigid tubing Ø 4 (NFE 49100)	Semi-rigid tubing Ø 4 (NFE 49100)
Operating temperature	°C	-5 +50	-5 +50
Mechanical life	operations	1.5 x 10 <sup>6</sup>	1.5 x 10 <sup>6</sup>
Weight	g	1000	1410

**Connections** (Typical application with double-acting cylinder)

**81 580 504**



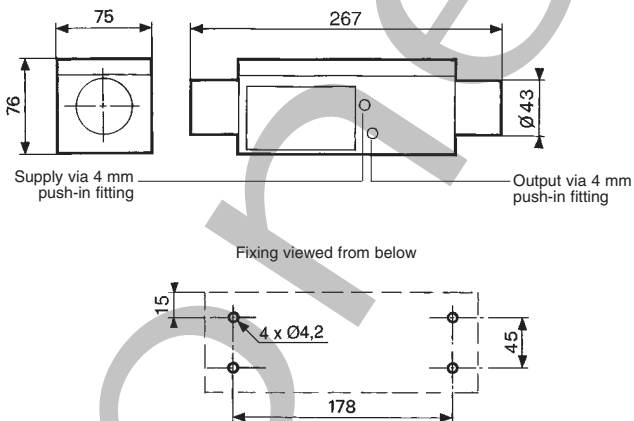
**81 580 503**



Components follow current standards

## Dimensions

**81 580 503 - 81 580 504**



## Other information

## To order, specify:

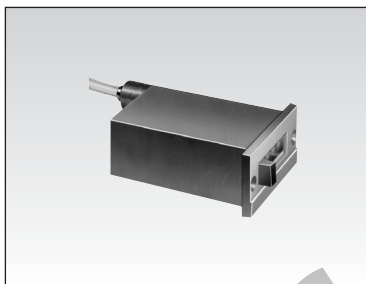
Standard products

1

Part number  
Example : Two-hand pneumatic safety start module - 81 580 503

Products and specifications subject to change without notice.



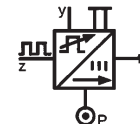


## Part numbers

Totalizer	99 766 002
Preselection counter	—
Version	4 digits with manual zero reset

—	89 538 201
—	5 digits with manual or pneumatic zero reset

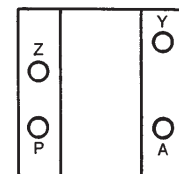
## Symbol



## Characteristics

Supply pressure	PSI (bar)	30 > 120 (2 > 8)	30 > 120 (2 > 8)
Dis-engagement pressure	PSI (bar)	< 2 (< 0.15)	< 2 (< 0.15)
Engagement pressure	PSI (bar)	> 12 (> 0.8)	> 12 (> 0.8)
Reset:			
Minimum pressure	PSI (bar)	30 (2)	30 (2)
Reset time	ms	150	150
Preselector output valve			•
Circuit pressure	PSI (bar)		30 > 120 (2 > 8)
Signal emitted when the preselector is reached			•
Operating temperature	°F (°C)	+32 > +140 (0 > +60)	+32 > +140 (0 > +60)
Weight	grams	48	136

## Connection



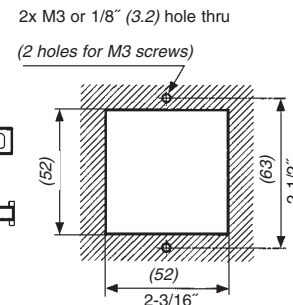
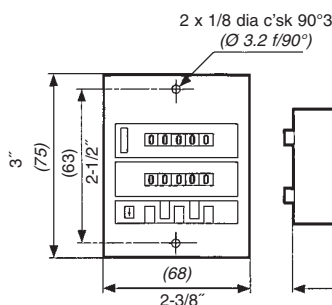
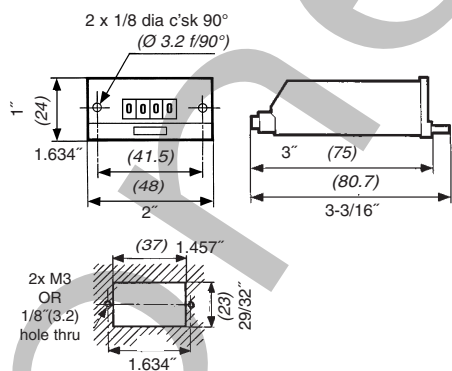
A - Output signal  
P - Supply  
Y - Reset to zero signal  
Z - Input signal

**Note:** the count pulse must be removed before the reset pulse is applied. The preselected value can be changed during operation without the counter resetting to zero.

## Dimensions

99 763 001 - 99 763 002

89 538 201



## Other information

## To order, specify:

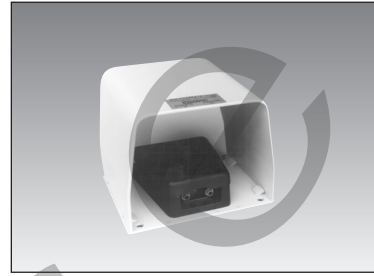
Standard products

Standard products, non stocked

**1** Part number

Example : Pneumatic impulse counter - 99 766 002

Products and specifications subject to change without notice.



**1**

**Parts numbers**

**Type**

Pneumatic indicators  
for 7/8" (22mm) cut-out

Red	84 150 201
Green	84 150 202
Yellow	84 150 203
Blue	84 150 204

Pedal valve - Version NC

**Symbol**

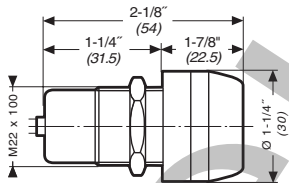


**Characteristics**

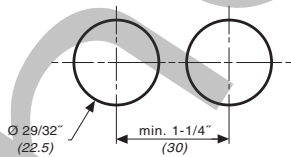
Operating Pressure	PSI (bar)	30 > 120	(2 > 8)
Instant connection for tube O.D.	inches (mm)	5/32"	(4)
Weight	grams	34	

**Dimensions**

84 150 201 - 84 150 202  
84 150 203 - 84 150 204



**Cut out for indicators**



Use (metric) dimensions for critical data

**To order, specify:**

Standard products

**1**

Part number

Example: pneumatic indicator Ø 22 - 84 150 201

Products and specifications subject to change without notice.