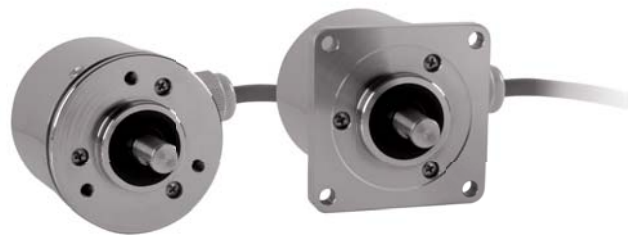


## MAIN FEATURES

Thanks to the magnetic technology and to the stainless steel enclosure, the EMA - EMS 63 is suitable for harsh environment applications such as marble and glass working machines, washing system, metalworking, laser/flame/water-jet cutting, food and beverage machinery, cranes and winches for ships, offshore applications, washing systems and those environments where high corrosion and high temperature resistance are required.

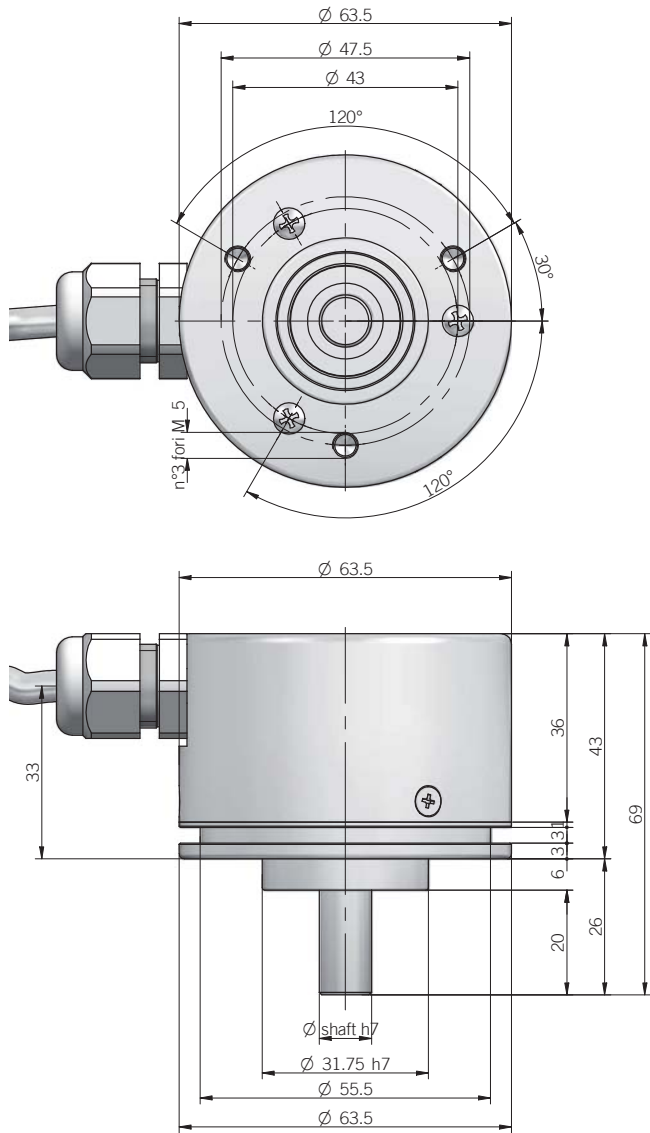
EMA - EMS 63 is available with SSI, parallel and analog output.



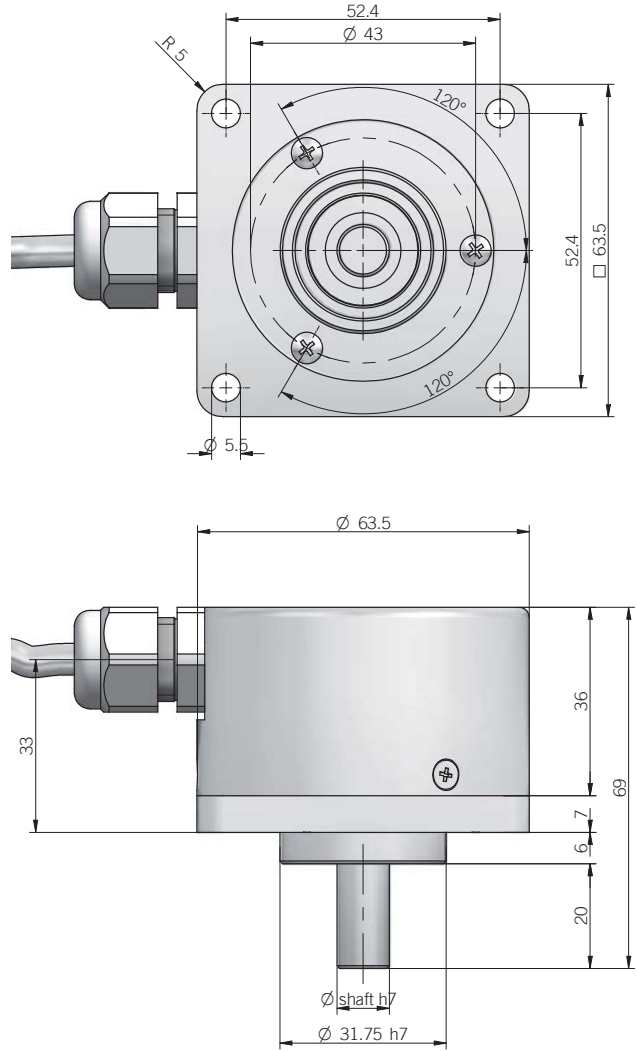
## ORDERING CODE

<b>EM</b>	<b>A</b>	<b>63</b>	<b>AX</b>	<b>512</b>	<b>B</b>	<b>5</b>	<b>S</b>	<b>P</b>	<b>X</b>	<b>6</b>	<b>X</b>	<b>6</b>	<b>P</b>	<b>R</b>	<b>.</b>	<b>XXX</b>
<b>SERIES</b> magnetic encoder <b>EM</b>	<b>TYPE</b> absolute <b>A</b> sinusoidal <b>S</b>	<b>SIZE</b> mm <b>63</b>	<b>FLANGE</b> stainless steel A model <b>AX</b> stainless steel D model <b>DX</b>	<b>RESOLUTION</b> ppr from 2 to 4096 with N / C / P / R / U interface ppr from 2 to 8192 with S interface (EMS series) ppr 1 <i>please directly contact our offices for pulses availability</i>	<b>CODE</b> Binary <b>B</b> Gray <b>G</b> Adjusted Binary <b>BC</b> Adjusted Gray <b>GC</b> (EMS series) unused option <b>X</b>	<b>POWER SUPPLY</b> 5 V DC <b>5</b> 8 ... 30 V DC <b>8/30</b>	<b>OUTPUT TYPE</b> (EMA series) NPN (negative logic standard) <b>N</b> (EMA series) NPN OPEN COLLECTOR (negative logic standard) <b>C</b> (EMA series) PNP (positive logic standard) <b>R</b> (EMA series) PNP OPEN COLLECTOR (positive logic standard) <b>U</b> (EMA series) PUSH PULL (positive logic standard) <b>P</b> (EMA series) SSI (positive logic standard) <b>S</b> (EMS series) sine - cosine line driver <b>L</b>	<b>OUTPUT DIRECTION</b> <b>A</b> axial <b>R</b> radial	<b>OUTPUT TYPE</b> <b>P</b> cable output with SKINTOP® (standard length 0.5 m)	<b>MAX ROTATION SPEED</b> <b>3</b> 3000 rpm <b>6</b> 6000 rpm	<b>ENCLOSURE RATING</b> <b>X</b> IP 64 standard <b>S</b> IP 66 optional (3000 rpm max)	<b>SHAFT DIAMETER</b> <b>6</b> ø 6 mm <b>8</b> ø 8 mm <b>9</b> ø 9.52 mm (3/8") <b>10</b> ø 10 mm	<b>OPTION</b> <b>X</b> unused option <b>ZE</b> code reset <b>S</b> strobe (binary code standard) <b>SZE</b> strobe and code reset <i>S and SZE option available only with binary or adjusted binary code type</i>	<b>LOGIC</b> <b>P</b> positive <b>N</b> negative <b>X</b> unused option (EMS series)	<b>VARIANT</b> <b>XXX</b> custom version	

## EMA - EMS 63 AX



## EMA - EMS 63 DX



## Electrical specifications

<b>Resolution</b>	from 2 to 4096 ppr with N / C / P / R / U interface from 2 to 8192 ppr with S interface 1 ppr with L interface (EMS series)
<b>Power supply</b>	5 V DC $\pm 10\%$ 8 ... 30 V DC $\pm 5\%$
<b>Current consumption without load</b>	< 100 mA
<b>Max load current</b>	15 mA for channel (EMS series) 20 mA for channel (with P electronic) 40 mA for channel (with NPN / PNP electronic)
<b>Output types</b>	NPN / NPN OPEN COLLECTOR / PNP / PNP OPEN COLLECTOR / PUSH PULL / RS422 SSI SIN - COS 1 Vpp (EMS series)
<b>Auxiliary inputs (U/D - Reset)</b>	active high (+Vdc) <i>connect to 0V if not used</i>
<b>Max output frequency</b>	1 MHz (SSI) 25 KHz (parallel) 1 KHz (EMS series)
<b>Monostable time (SSI)</b>	10 ÷ 25 $\mu$ s
<b>Strobe time (binary code)</b>	10 $\mu$ s <i>with N / C / R / U / P interface</i>
<b>Accuracy</b>	$\pm 0.35^\circ$ max
<b>Counting direction</b>	decreasing clockwise (shaft view)
<b>Electromagnetic compatibility</b>	IEC 61000-6-2 IEC 61000-6-3

## Mechanical specifications

<b>Shaft diameter</b>	6 / 8 / 9.52 / 10 mm
<b>Enclosure rating</b>	IP 64 standard IP 66 optional
<b>Max rotation speed</b>	3000 rpm max for IP 66 6000 rpm
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibration</b>	10 G, 10 ÷ 2000 Hz (IEC 60068-2-6)
<b>Body material</b>	stainless steel
<b>Shaft material</b>	stainless steel
<b>Housing material</b>	stainless steel
<b>Bearings</b>	2 ball bearings
<b>Bearings life</b>	10 <sup>9</sup> revolution
<b>Operating temperature</b>	-25° ... +85°C
<b>Storage temperature</b>	-25° ... +85 °C
<b>Weight</b>	800 g

## Connections for EMA series (interface P)

Function	B / G	16 / 18 wire cable colours
bit 1 (LSB)	G <sup>0</sup> / B <sup>0</sup>	green
bit 2	G <sup>1</sup> / B <sup>1</sup>	yellow
bit 3	G <sup>2</sup> / B <sup>2</sup>	blue
bit 4	G <sup>3</sup> / B <sup>3</sup>	brown
bit 5	G <sup>4</sup> / B <sup>4</sup>	orange or pink
bit 6	G <sup>5</sup> / B <sup>5</sup>	white
bit 7	G <sup>6</sup> / B <sup>6</sup>	gray
bit 8	G <sup>7</sup> / B <sup>7</sup>	violet
bit 9	G <sup>8</sup> / B <sup>8</sup>	gray / pink
bit 10	G <sup>9</sup> / B <sup>9</sup>	white / green
bit 11	G <sup>10</sup> / B <sup>10</sup>	brown / green
bit 12	G <sup>11</sup> / B <sup>11</sup>	white / yellow
0 Volt	/	black
+ Vdc	/	red
U / D	/	red / blue
RESET	/	yellow / brown
STROBE	/	white / gray
⏏	/	shield

## Connections for EMA series (interface SSI)

Function	Wire cable
+ V dc	red
0 Volt	black
dato +	green
dato -	brown
clk +	yellow
clk -	orange or pink
U / D	rosso / blu
RESET	bianco
⏏	shield

## Connections for EMS series

Function	Wire cable
+ V dc	red
0 Volt	black
sin +	verde
sin -	brown
cos +	yellow
cos -	orange or pink
⏏	shield