

# APSL Series

## IP66/67 Single Turn Absolute Shaft Encoder

Maximum Increments ..... 4096

Shaft Diameter Range ..... 12mm

### MECHANICAL SPECIFICATIONS

Maximum RPM ..... 6000  
 Torque ..... >0.4Nm  
 Loading ..... Axial 60N, Radial 50Nm  
 Weight ..... 1300g  
 Temperature ..... -20°C to +70°C

### ELECTRICAL

Current Consumption ..... 100mA  
 Maximum output signal frequency ..... 50kHz

**NOTE:** Short circuit protection on all wires

### FEATURES

The APSL encoders are designed for installation in very harsh areas, with certification to the following European and International standards.  
 EN 60529 & IEC 144 ..... CENELEC to IP66/67 - M/S Dynamic & Static  
 EN50.081-2 & EN50.082-2 ... CENELEC Generic EMC Standards

Each encoder has a control wire to change the count direction (up or down), with the control wire connected to the + and the encoder shaft turning clockwise, (CW) the output value will increase. Connecting the control wire to the 0 Volt supply the output value will decrement as the shaft turns clockwise.

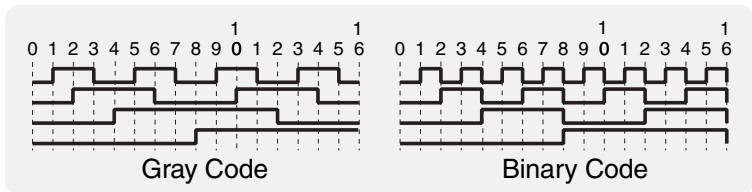
A range of mounting accessories are also available, refer to the Accessories and Couplings data sheets for full details. **NOTE:** A flexible coupling must always be used to attach the encoder to the drive shaft.

Function	Plug Pin	Wire
0 Volts	1	White
+ Volts	2	Brown
Bit 1 - 2 <sup>0</sup>	3	Green
Bit 2 - 2 <sup>1</sup>	4	Yellow
Bit 3 - 2 <sup>2</sup>	5	Grey
Bit 4 - 2 <sup>3</sup>	6	Pink
Bit 5 - 2 <sup>4</sup>	7	Blue
Bit 6 - 2 <sup>5</sup>	8	Red
Bit 7 - 2 <sup>6</sup>	9	Black
Bit 8 - 2 <sup>7</sup>	10	Violet
Bit 9 - 2 <sup>8</sup>	11	Grey/Pink
Bit 10 - 2 <sup>9</sup>	12	Red/Blue
Bit 11 - 2 <sup>10</sup>	13	White/Green
Bit 12 - 2 <sup>11</sup>	14	Brown/Green
	15	
? Direction CW/CCW	16	Yellow/Brown

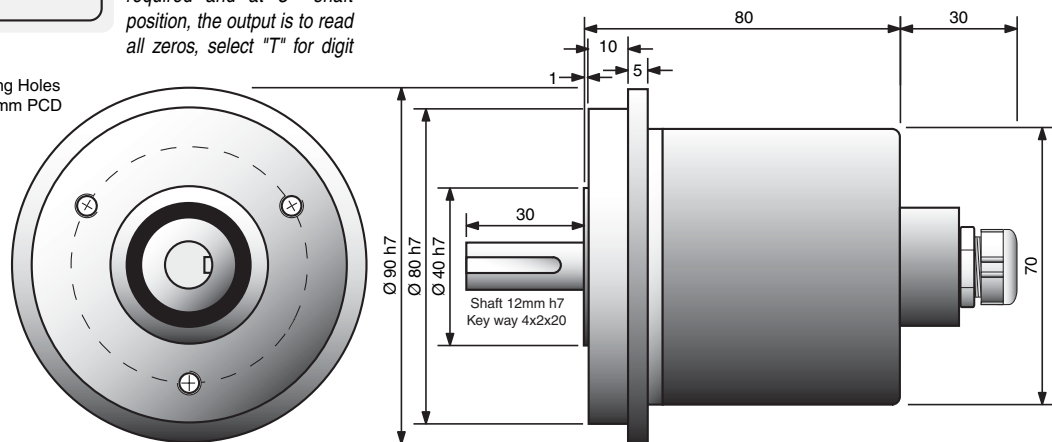
**NOTE 1:** Gray code encoders with a non cyclic output code (360, 720 etc ) have a zero off-set applied. This ensures that only one bit changes between the highest value and the home or zero positions.

e.g. An encoder with 360 divisions for each rotation of the shaft, will read between 76 and 435 only.

If a non cyclic code is required and at 0° shaft position, the output is to read all zeros, select "T" for digit



3 x M6 Mounting Holes  
 10 Deep at 60mm PCD  
 & 120° Apart



### Part Number Selection Guide

Series				Mechanical Options				Electrical Options				Bit Range				
1	2	3	4	5	6	7	8	9	10	11	12	12 Bits 4096				
<b>A</b>	<b>P</b>	<b>S</b>	<b>L</b>	—	□	□	<b>S</b>	<b>R</b>	—	□	□	□	□	□	□	□
<b>Stainless Shaft</b> Shaft ..... 10 or 12mm								<b>Voltage &amp; Output Type</b> 5 Volt TTL ..... 1 8-30 Volt Push Pull ..... M								
<b>Housing Material</b> IP66/67 Stainless Steel .... S								<b>Output Options</b> None Fitted ..... A								
<b>Wiring Method</b> Cable 2 Meters ..... 2 Cable 5 Meters ..... 3 Cable - Custom Length .. 4								<b>Output Code</b> Standard Gray ..... A Binary ..... B #Gray with NO excess .... T # see Note 1								
<b>Wiring Entry</b> Rear or Axial ..... R																

A product of the world wide **GES**group made by W+S UK. Sold and serviced in Australia by **PCA**

**NOTE:** The encoder products outlined in this data sheet have been certified by a nominated European Test Authority, and are identified on all International and European certificates as the AP700 Series.