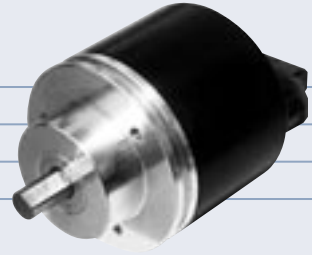


# XS 410

SPECIAL FUNCTION SHAFT ENCODER

Compact Construction  
 IP54 (Optional IP65 Protection)  
 Direction Output Signal  
 4096 PPR Maximum  
 100 kHz Maximum Frequency



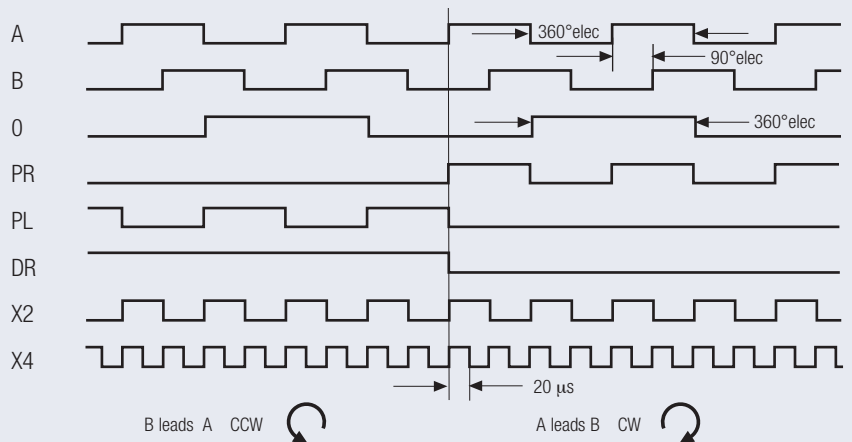
## ELECTRICAL SPECIFICATIONS

Supply Voltage	5 Volt TTL or 8 to 30 V DC
Current Consumption	40 mA (max)
Output Circuit	Push-Pull, RS 422A
Impulse Frequency	200 kHz (max)
Logic Level (high)	Vcc - 0.7 Volt
Logic Level (low)	0.25 Volt (max)
Short Circuit Protection	100 %

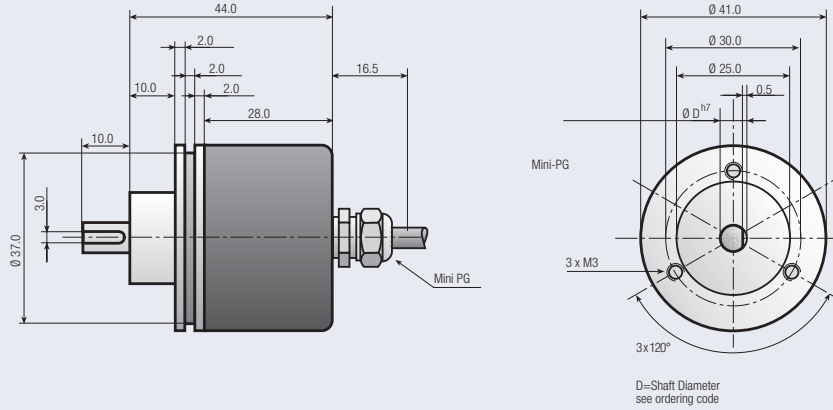
## MECHANICAL SPECIFICATIONS

Cover	Aluminium
Body	Aluminium
Shaft	Stainless Steel
Speed	6000 RPM (max)
Torque	> 0.04 Nm
Loading	Axial 40 N, Radial 30 N
Protection	IP 54
Temperature	-20°...+70°C (-4°...+158°F) +100°C (+212°F) Optional
Weight	0.27 lb (130 g)

## OUTPUT SIGNALS



Drawing available as:  
dxf, iges, step, sld file



ORDERING CODE

**XS 410** -         -

a b c d e f g h Pulses Per Revolution

- a Group Function**  
XS=Special Function Solid Shaft
- b Basic Series Number**  
410
- c Shaft Size D**  
06=6 mm  
AA=1/4"
- d Mechanical Options**  
0=None

- e Connector Type**  
0=2 mtr. Cable
- f Connector Location**  
A=Axial
- g Output Signals**  
7=A+PL+PR+DR  
8=A+B+0+PR+PL+DR+X2+X4
- h Output Circuit Type**  
1=TTL (5 VDC)  
5=Push Pull 8 to 30 VDC

**Note:** Special functions and designs will be designated by a 4 digit code at the end of the part number. Consult factory for further details

CONNECTIONS

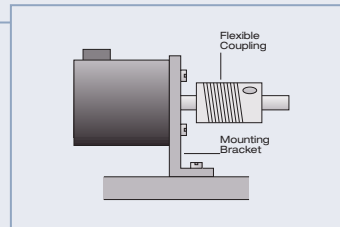
Function	Cable Colour Code
0 Volt	white
+ Volt	brown
A	green
B	yellow
0	grey.
PR	pink
PL	blue
X2	red
X4	black
DR	violet
Earth	gray/pink

# MECHANICAL INSTALLATION

## RECOMMENDED MECHANICAL INSTALLATION

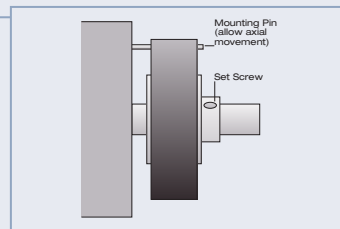
### 1. Shaft Encoders

- mount encoder to mounting bracket.
- install coupling to shaft encoder.
- align encoder and coupling to drive shaft.
- mount bracket to machine assembly.
- check alignment is correct.
- tighten all screws.



### 2. Hollow Shaft Encoders

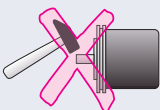
- mount pin to machine assembly.
- install encoder to shaft of the machine.
- use mounting pin to stop encoder from rotating.
- check if mounting pin allows axial movement of the optical encoder.
- check alignment is correct.
- tighten all set screws.



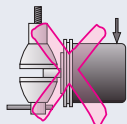
## CAUTION

All encoders produced by the GESgroup are designed to be reliable, rugged and easy to install. Should you require clarification on any of these instructions, please contact the nearest GESgroup company (See back cover page).

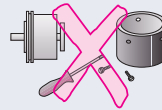
**Caution! Any of these actions my cause damage to the product.**



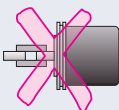
**Do not shock the encoder**



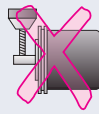
**Do not subject the encoder to axial or radial stress**



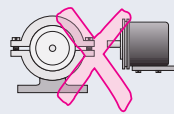
**Do not dismantle the encoder**



**Do not use a rigid coupling**



**Do not tool the encoder or its shaft**



**Do not use makeshift techniques to mount the encoder**