Universitat de Vic
**Escola Politècnica Superior**

# PLANOS

*Manipulador robótico con visión artificial (CableBot)*

Alberto López Germán

**Grado en Ingeniería Electrónica Industrial y Automática**
Tutor: Pere Martí Puig
Vic, Septiembre de 2014

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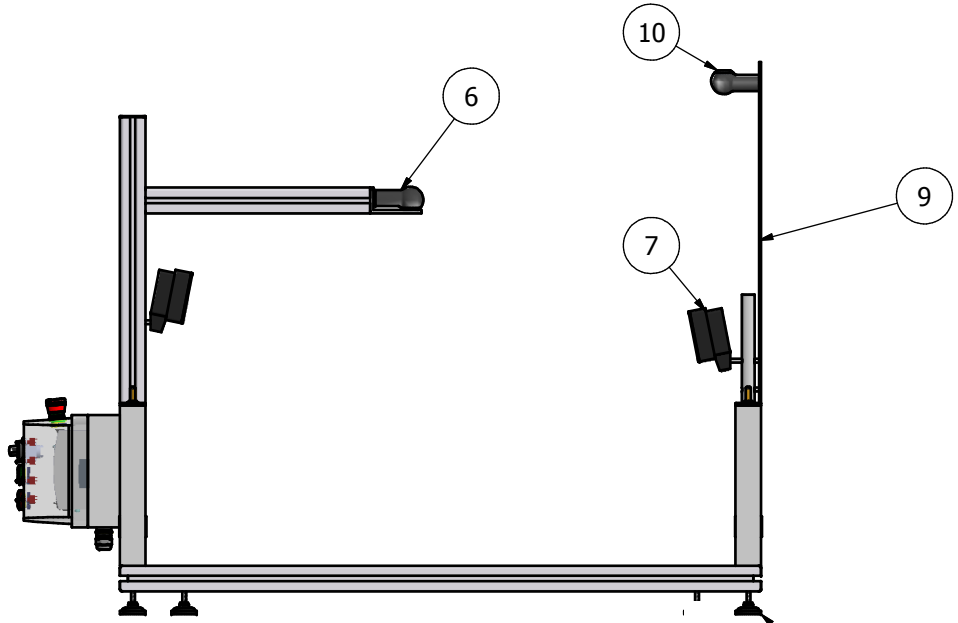


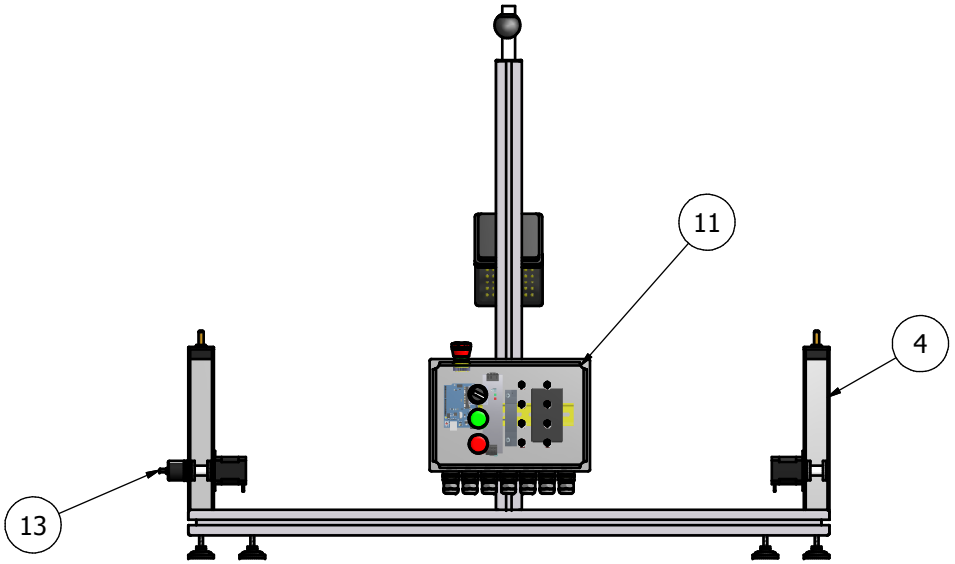


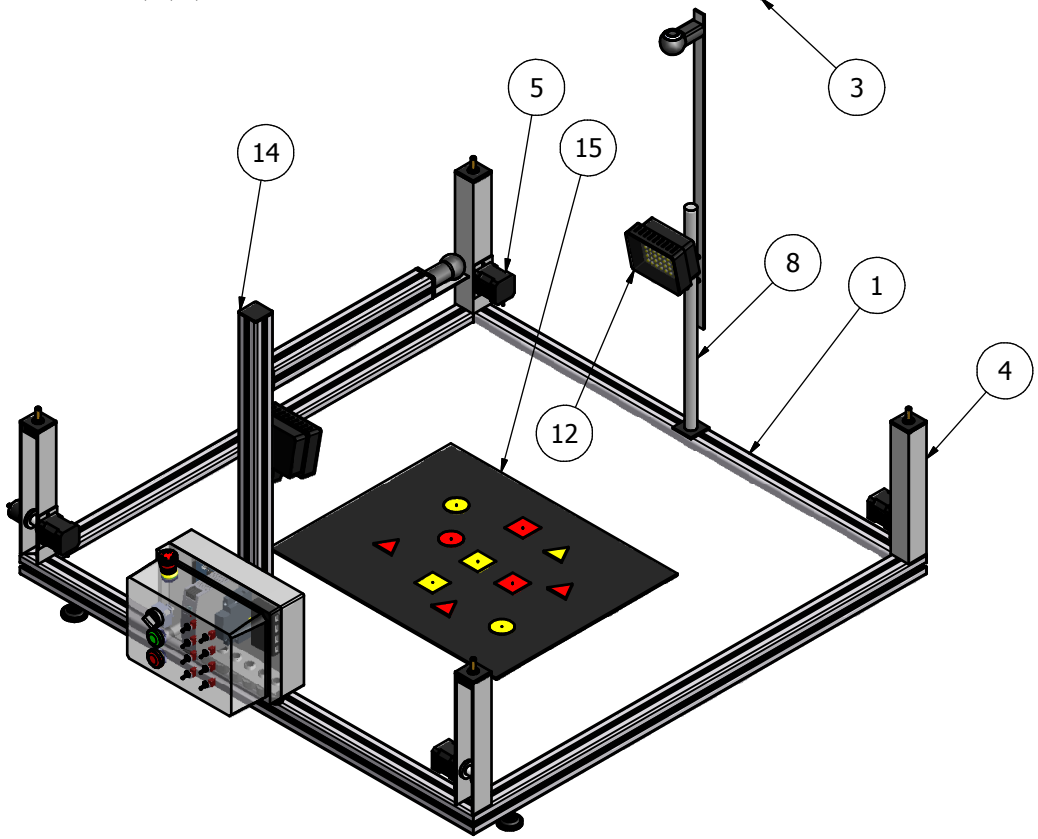


| LISTA DE PIEZAS | | | |
|---|---|---|---|
| ELEMENTO | CTDAD | Nº DE PIEZA | DESCRIPCIÓN |
| 1 | 4 | Perfil de la estructura | Perfil 40x40 |
| 2 | 1 | Superficie de soporte | Panel 1x1m |
| 3 | 4 | Pata niveladora | Pata M6x40 |
| 4 | 4 | Columna | Soporte motor PaP+carrete |
| 5 | 4 | Motor PaP | Control del robot |
| 6 | 1 | Camara principal | WebCam HD |
| 7 | 2 | Foco | Iluminacion artificial |
| 8 | 1 | Soporte Foco | Tubo 20mm |
| 9 | 1 | Soporte CAM 2 | Soporte camara panoramica |
| 10 | 1 | CAM Panoramica | WebCam baja resolucion |
| 11 | 1 | Caja de electronica | Componentes de control |
| 12 | 2 | Filtro difusor | Difusor de luz atificial |
| 13 | 1 | Encoder | Sensor de posicion |
| 14 | 1 | Tapa embellecedora | Cubre perfil |
| 15 | 1 | Superficie de trabajo | Colocacion de piezas |

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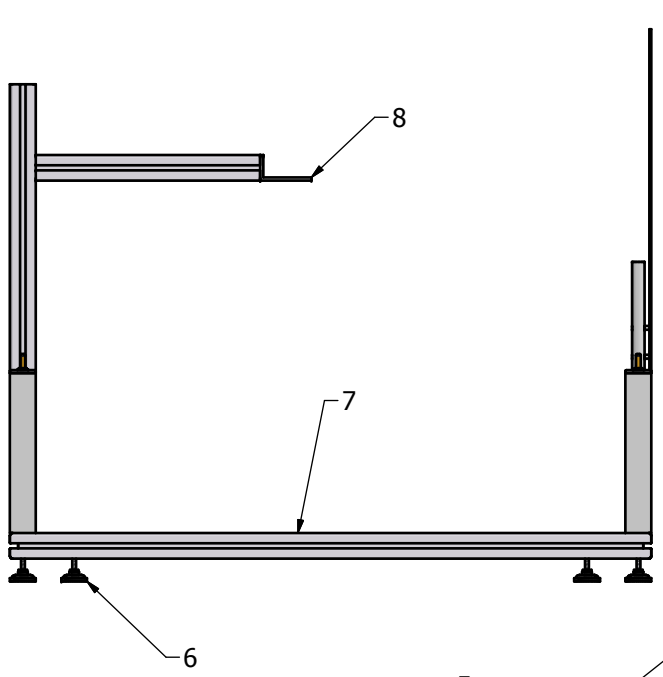
Manipulador robótico con visión artificial

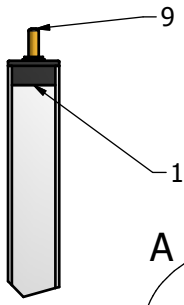
ENSAMBLAJE GENERAL

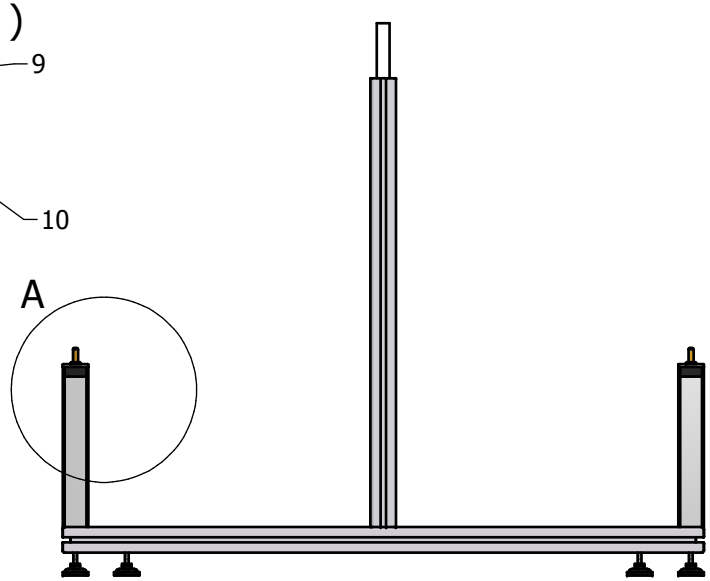
Edición

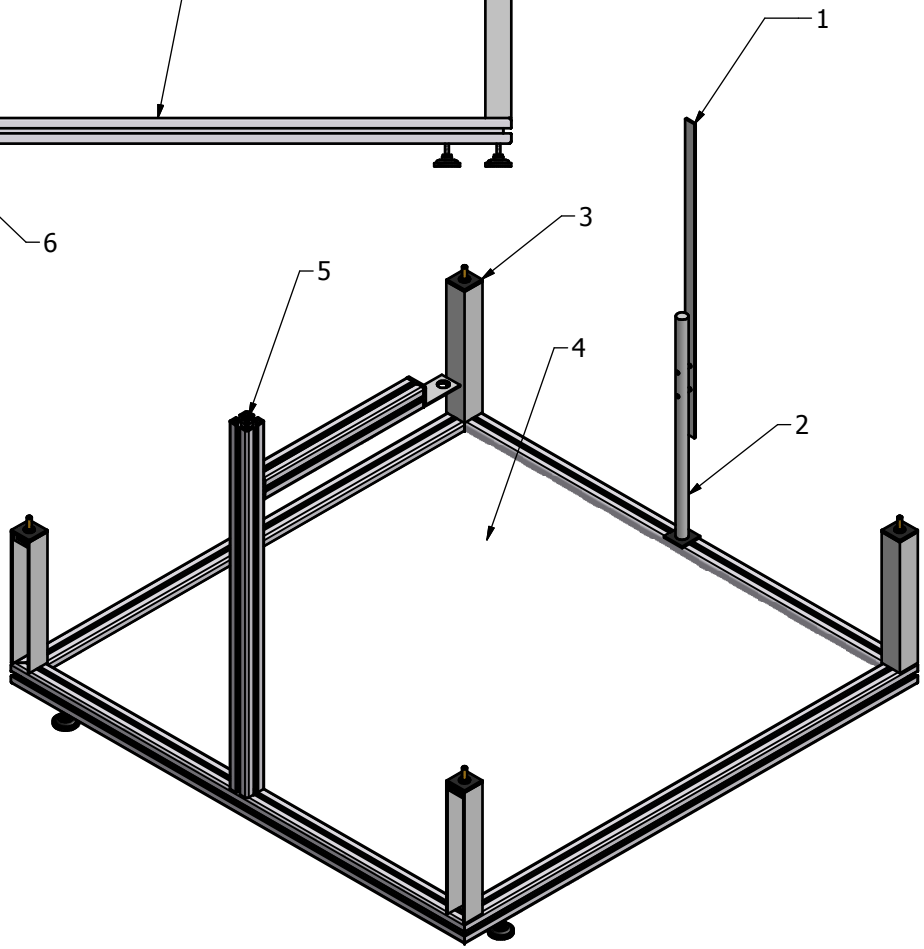
Hoja 1 / 1




A ( Columna )




| LISTA DE PIEZAS | | | |
|---|---|---|---|
| ELEMENTO | CTDAD | Nº DE PIEZA | DESCRIPCIÓN |
| 1 | 1 | Soporte CAM 2 | |
| 2 | 1 | Soporte Foco | |
| 3 | 4 | Columna | |
| 4 | 1 | Superficie | |
| 5 | 1 | Estructura CAM 1 | |
| 6 | 4 | Pata niveladora | |
| 7 | 4 | Perfil estructura 40x40 | |
| 8 | 1 | Soporte CAM 1 | |
| 9 | 4 | Guia de cable | |
| 10 | 4 | Tapon de columna | |

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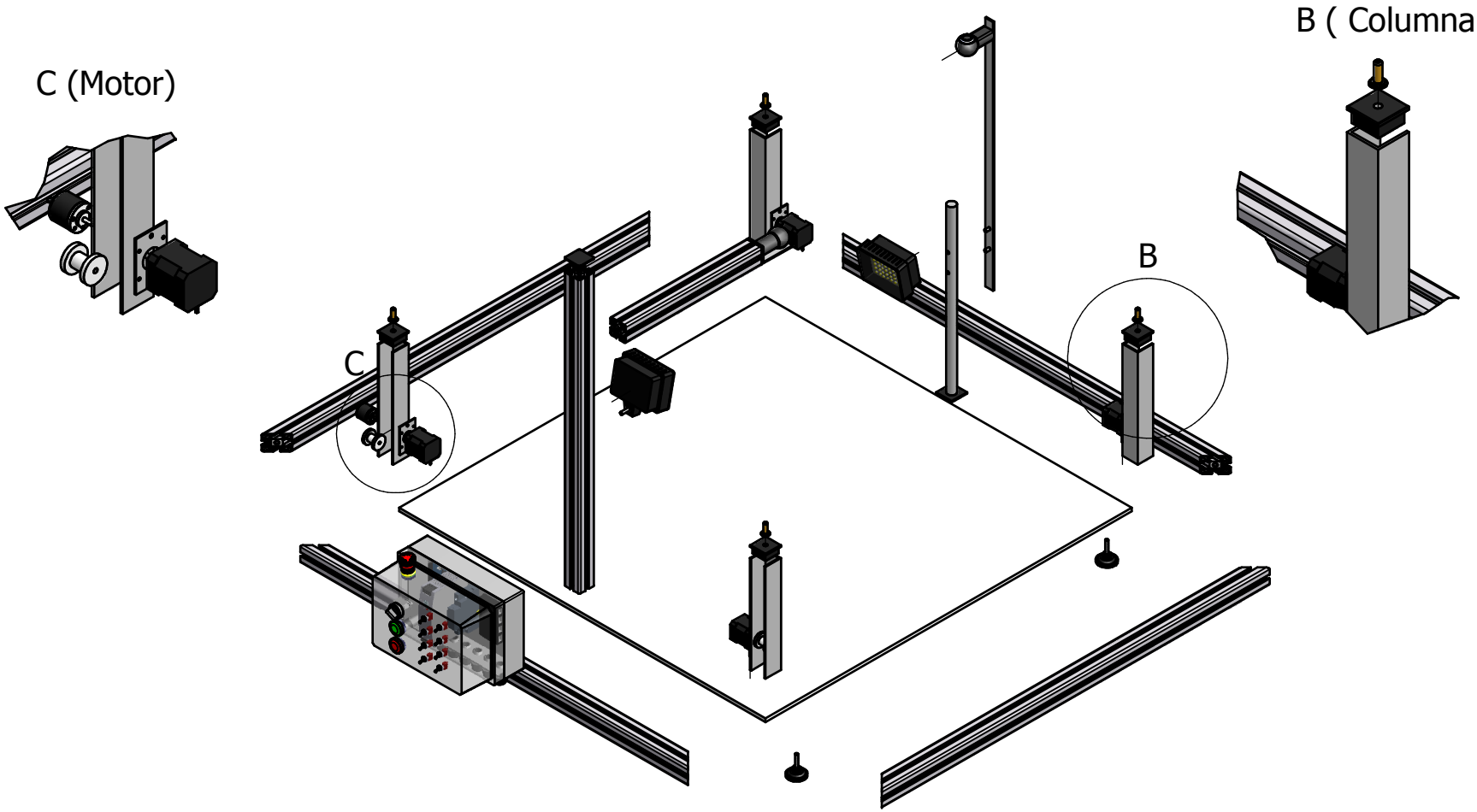
Ensamblaje Estructura

Edición

Hoja 1 / 1

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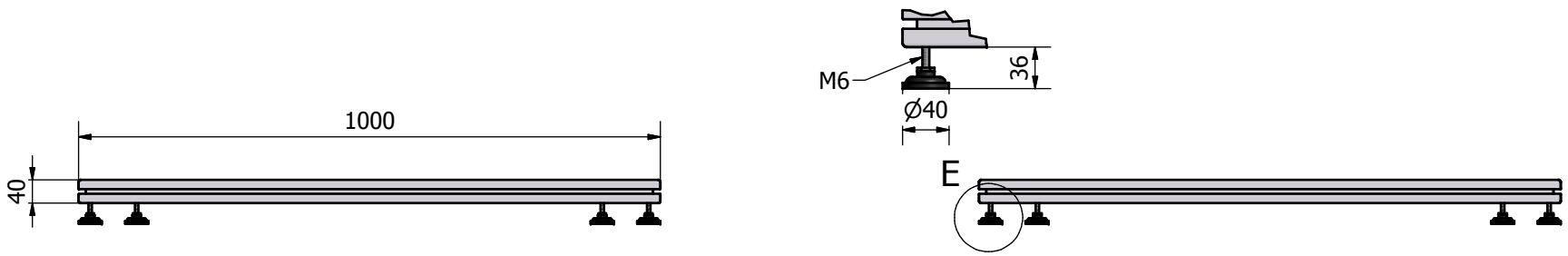
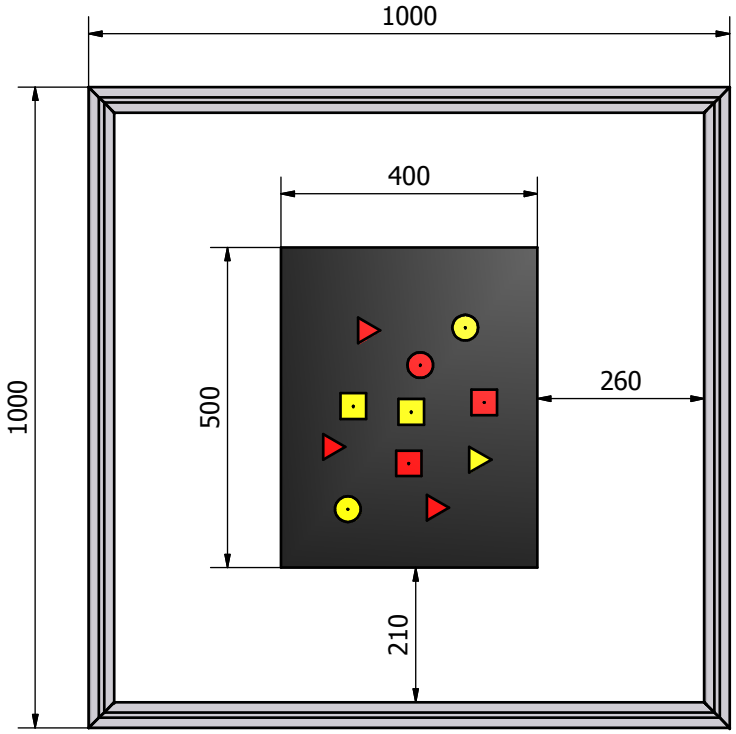
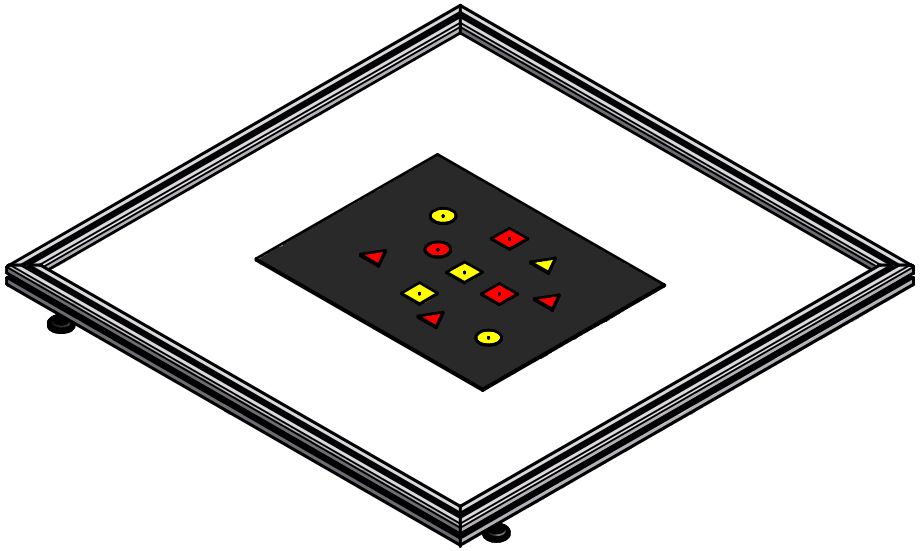
Explosionado Estructura

Edición

Hoja 1 / 1



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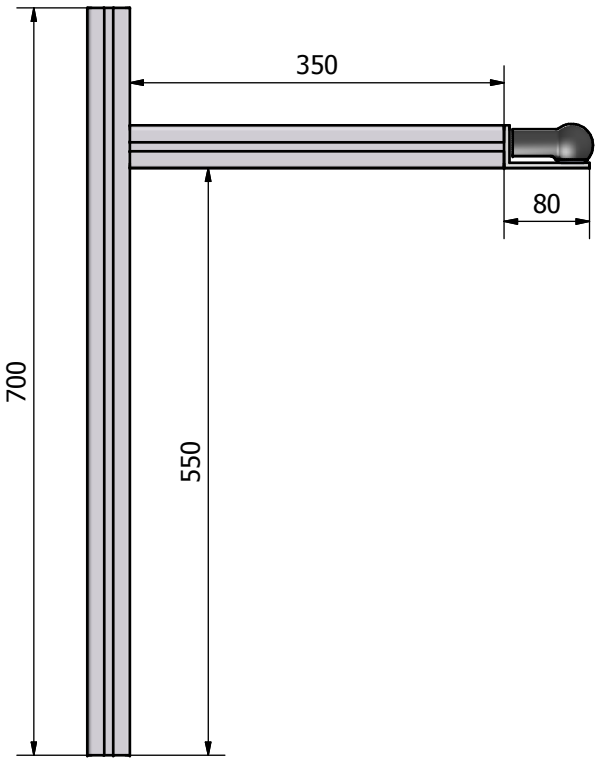
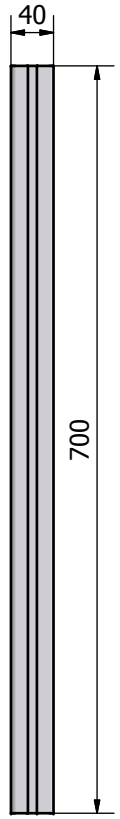
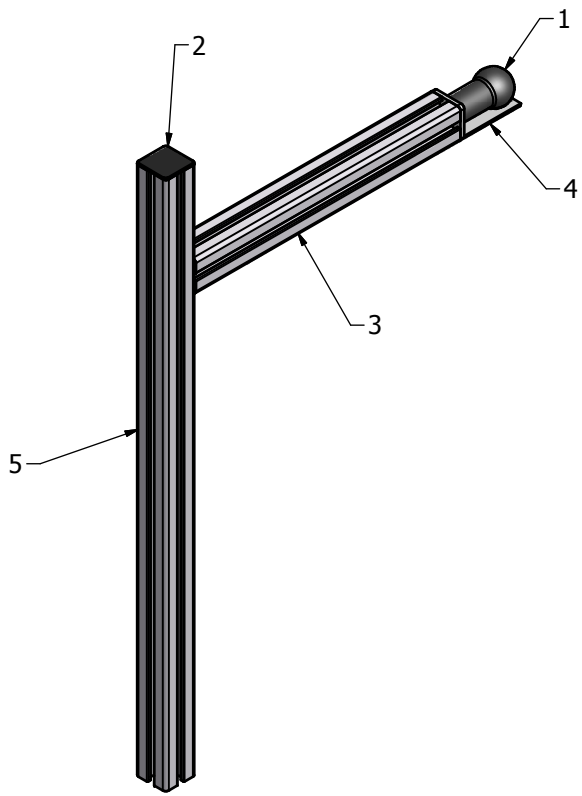
Estructura_Cotas

Edición

Hoja 1 / 1




| LISTA DE PIEZAS | | | |
|---|---|---|---|
| ELEMENTO | CTDAD | Nº DE PIEZA | DESCRIPCIÓN |
| 1 | 1 | WebCam principal | HD CAM C525 |
| 2 | 1 | Tapon | Tapa 40x40 |
| 3 | 1 | Soporte horizontal | Perfil 40x40 |
| 4 | 1 | Escuadra soporte | Escuadra de aluminio |
| 5 | 1 | Soporte vertical | Perfil 40x40 |

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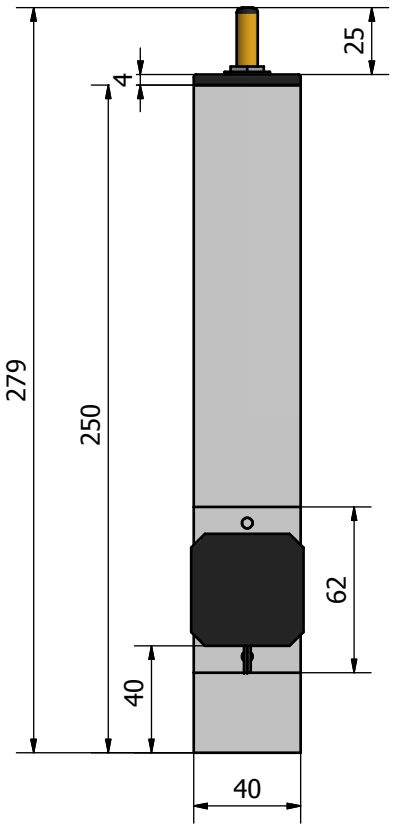
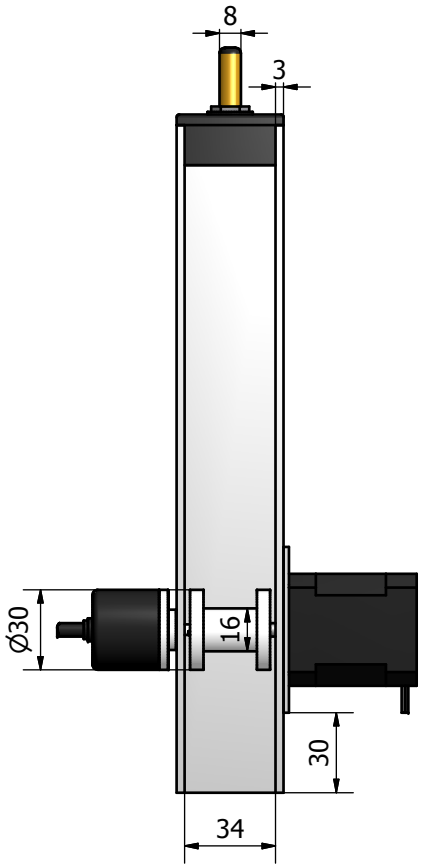
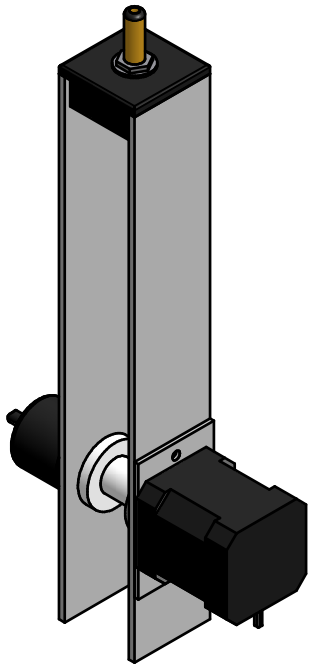
Cotas Soporte CAM 1

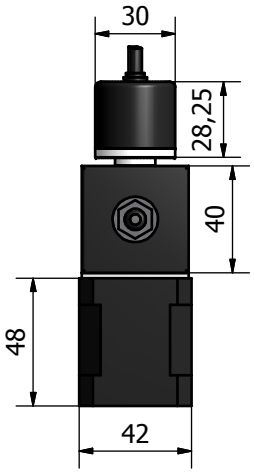
Edición

Hoja 1 / 1



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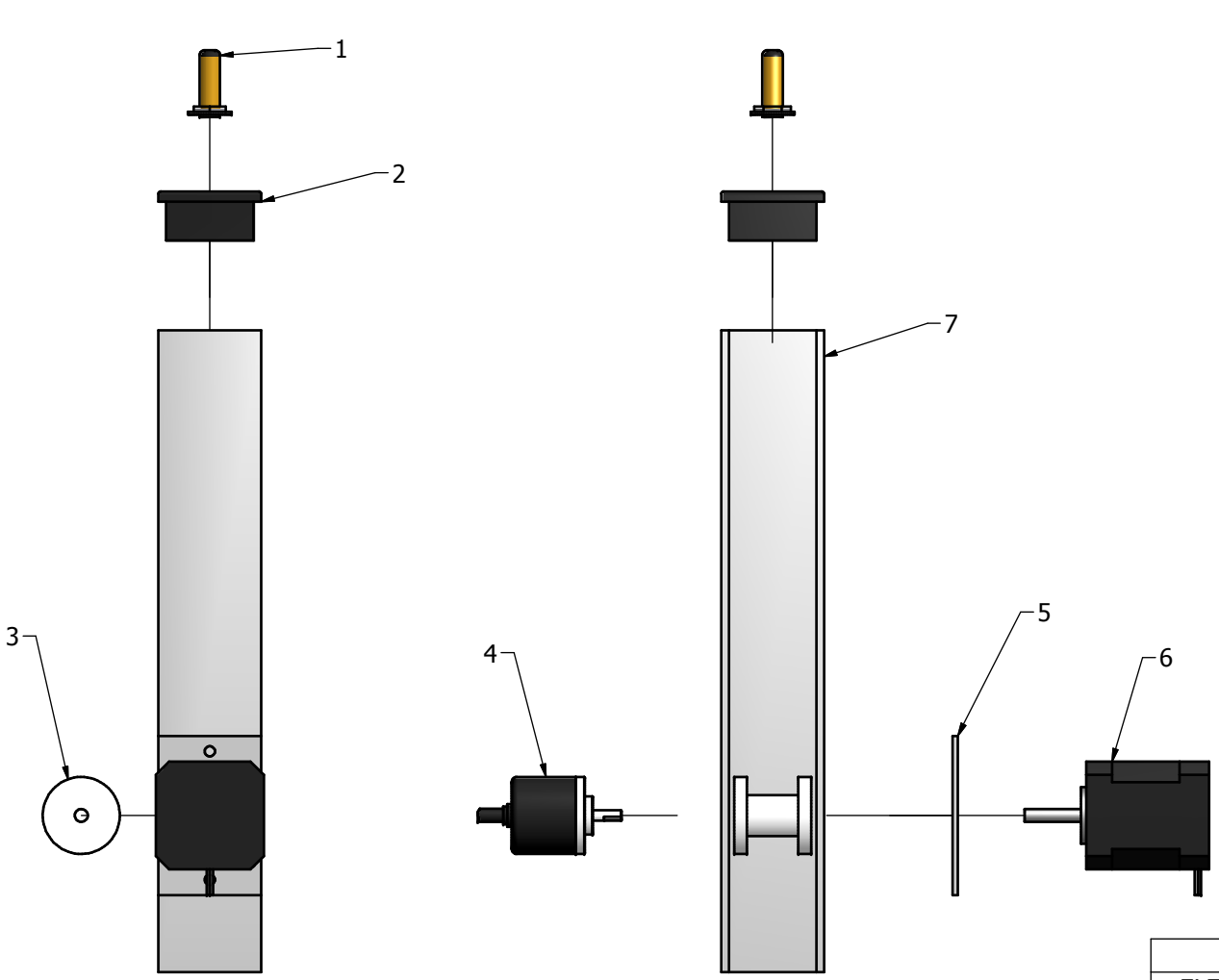
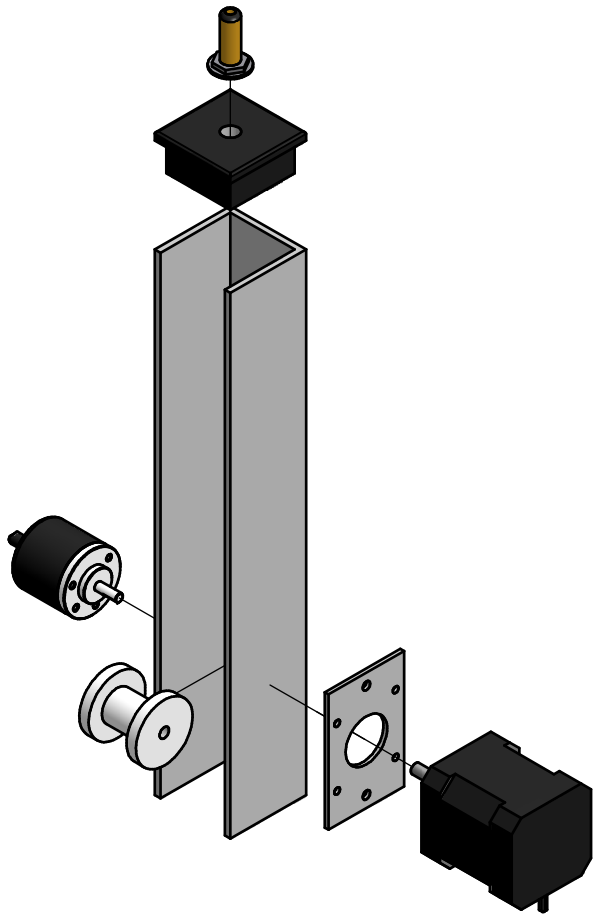
Cotas Columna

Edición

Hoja 1 / 1



| LISTA DE PIEZAS | | | |
|---|---|---|---|
| ELEMENTO | CTDAD | Nº DE PIEZA | DESCRIPCIÓN |
| 1 | 4 | Guia de cable | M8x50 |
| 2 | 4 | Tapon | Tapon 40x40 |
| 3 | 4 | Carrete | ABS 3D printer |
| 4 | 1 | Encoder | 400 ppr |
| 5 | 4 | Placa interfase motor | Placa acero NEMA17 |
| 6 | 4 | Motor | Motro PaP NEMA17 |
| 7 | 4 | Columna | Canal aluminio 38mm |

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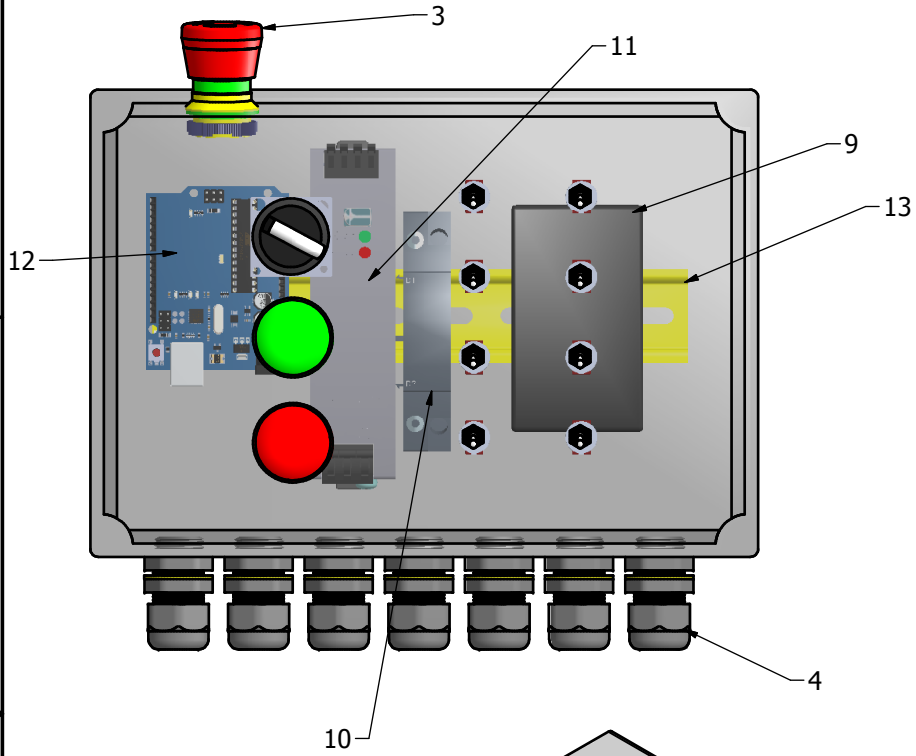
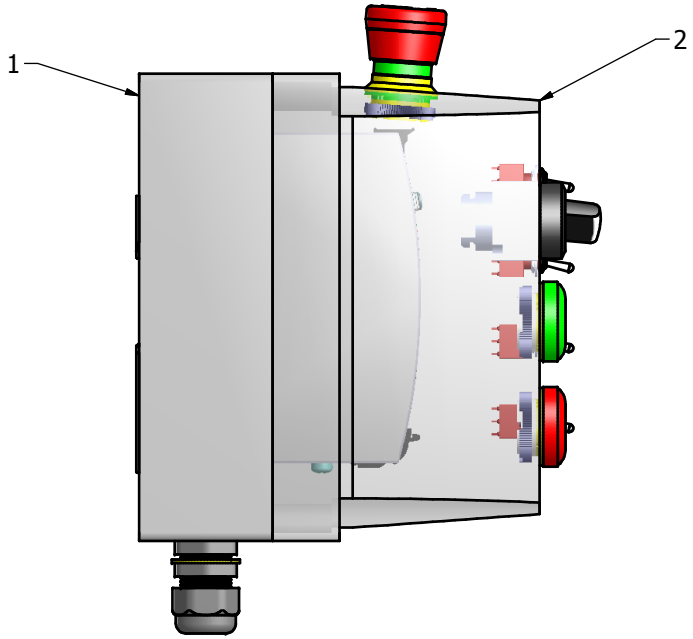
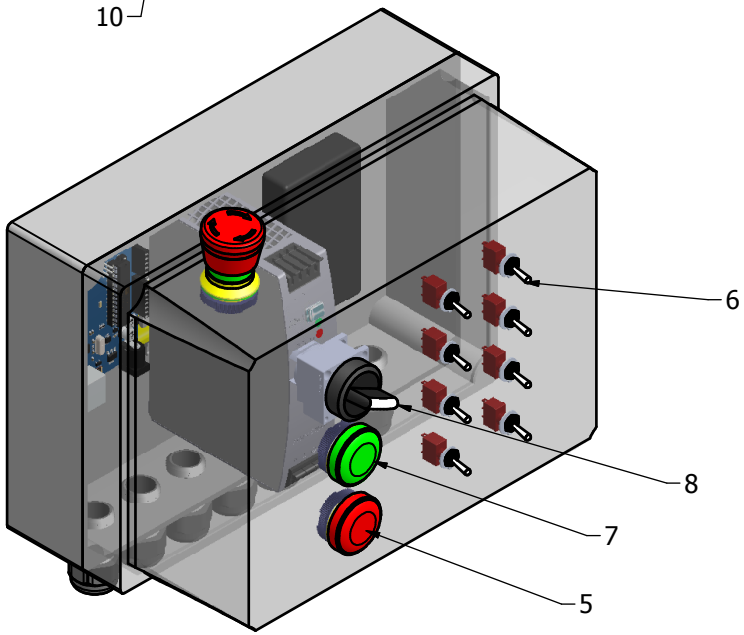
Explosionado Columna

Edición

Hoja 1 / 1




LISTA DE PIEZAS

| ELEMENTO | CTDAD | Nº DE PIEZA | DESCRIPCIÓN |
|---|---|---|---|
| 1 | 1 | Base de caja | ABS gris 250x180 |
| 2 | 1 | Tapa de caja | ABS transparente |
| 3 | 1 | Seta de emergencia | 22mm sin resorte |
| 4 | 7 | Prensaestopas | M10x25 |
| 5 | 1 | Indicador rojo | 22mm 24Vcc |
| 6 | 8 | Interruptor manual | SPDT |
| 7 | 1 | Indicador verde | 22mm 24Vcc |
| 8 | 1 | Selector ON/OFF | Selector 2 posiciones |
| 9 | 1 | HUB USB | 7 puertos |
| 10 | 1 | Rele auxiliar | |
| 11 | 1 | Fuente de alimentacion | 24Vcc/5A |
| 12 | 1 | Electronica de control | Nucleo F103 |
| 13 | 1 | Rail DIN | 35mm |

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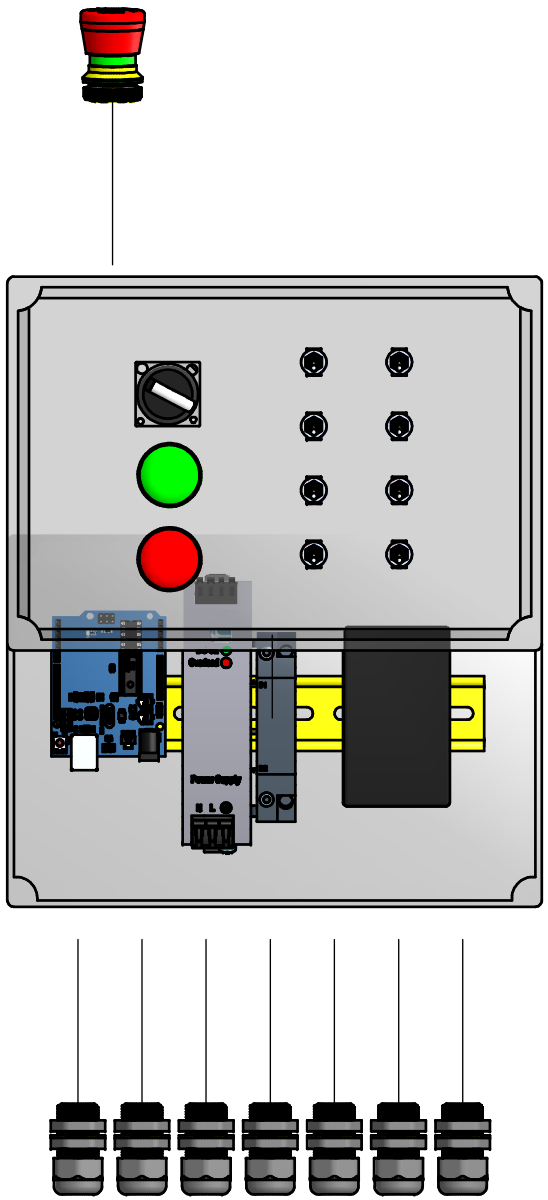
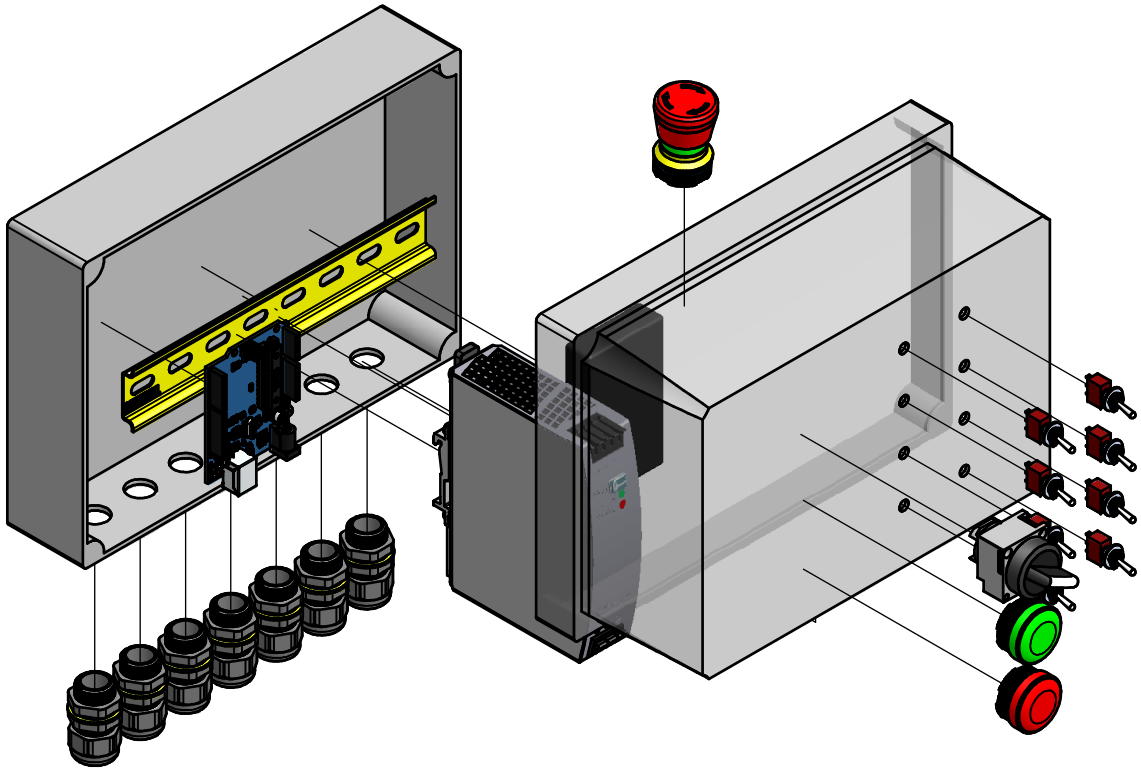
Caja electronica

Edición

Hoja 1 / 1





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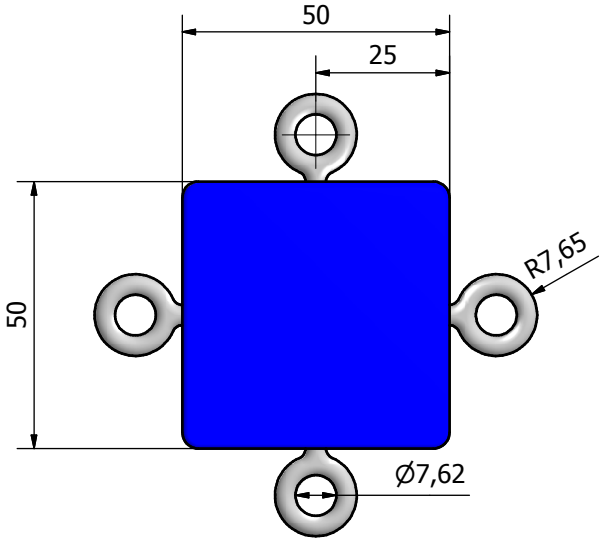
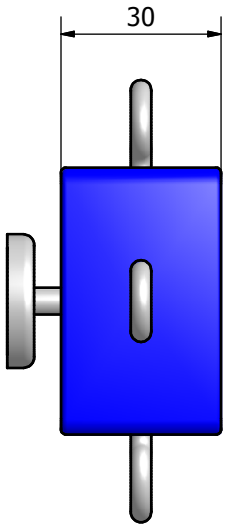
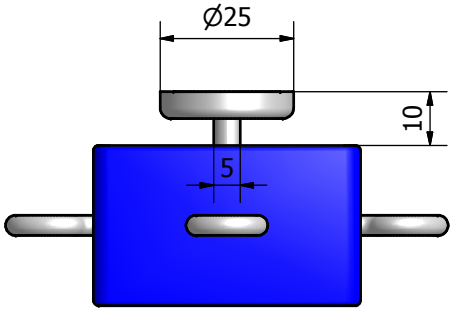
Explosionado Caja

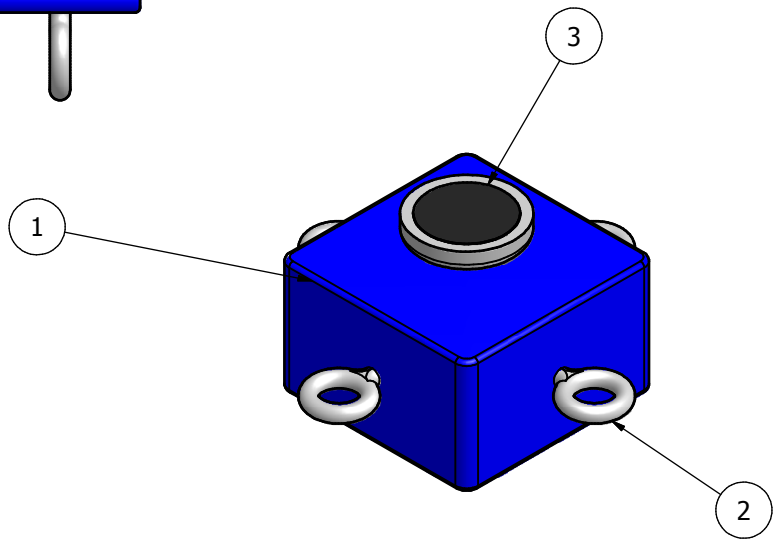
Edición

Hoja 1 / 1




LISTA DE PIEZAS

| ELEMENTO | CTDAD | Nº DE PIEZA | DESCRIPCIÓN |
|---|---|---|---|
| 1 | 1 | Efector final | Caja aluminio 50x50x30 |
| 2 | 4 | Cancamo fijacion cable | Argollas M5 |
| 3 | 1 | Manipulador de agarre | Electroiman |

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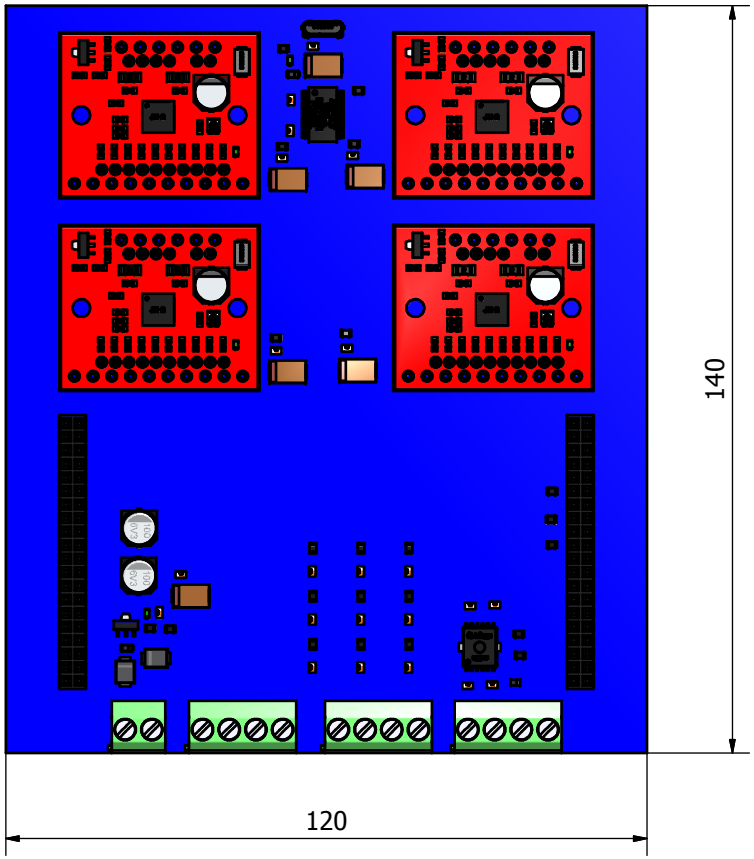
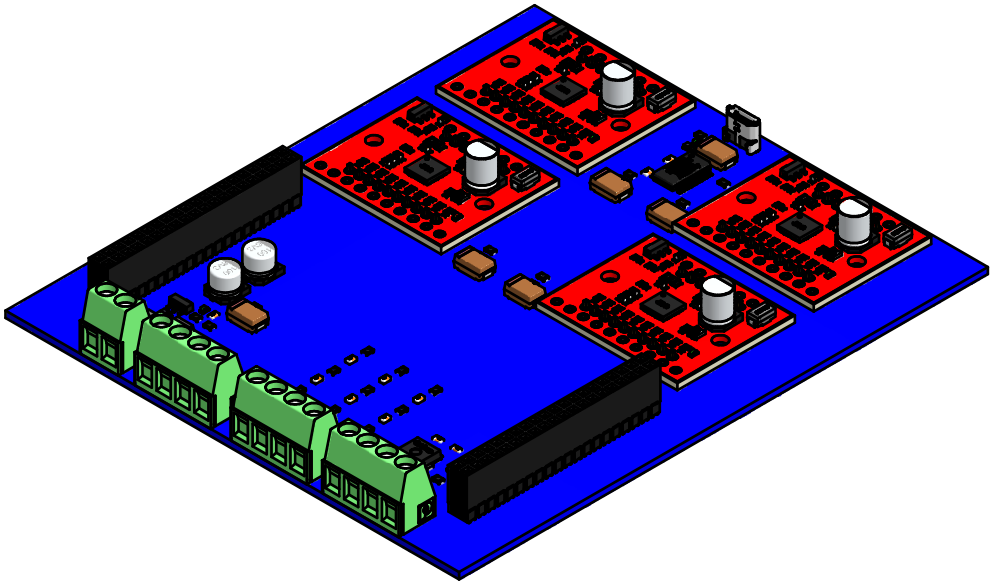
efector

Edición

Hoja 1 / 1



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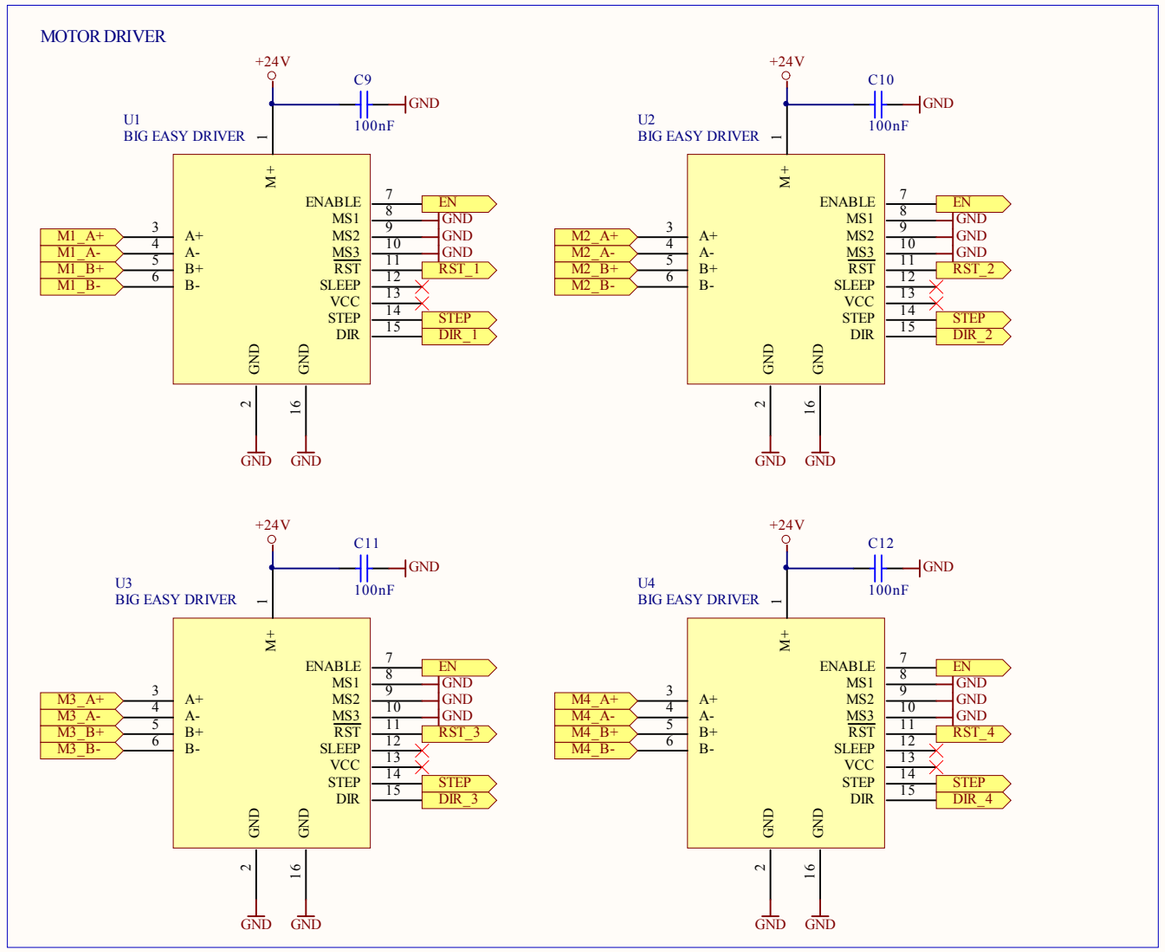
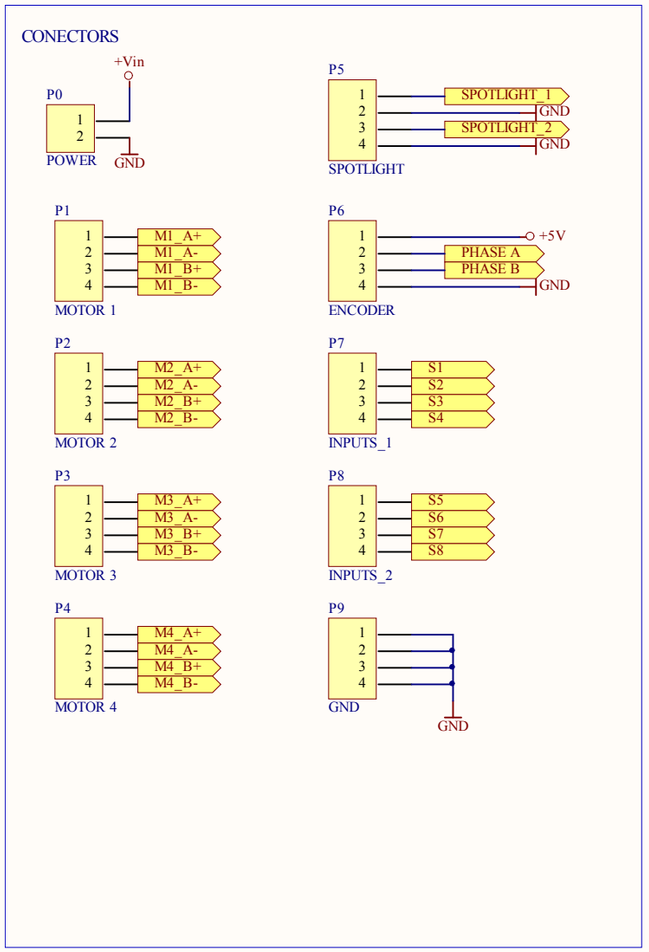
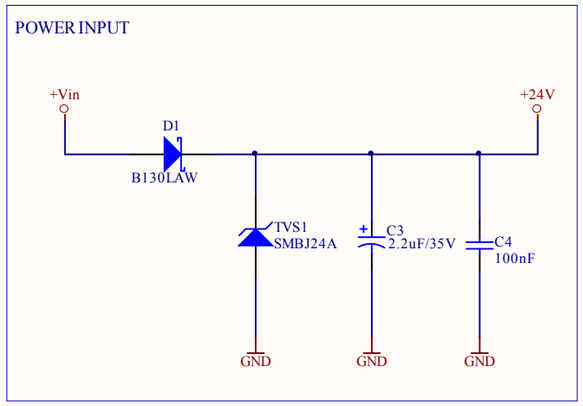
Placa de control

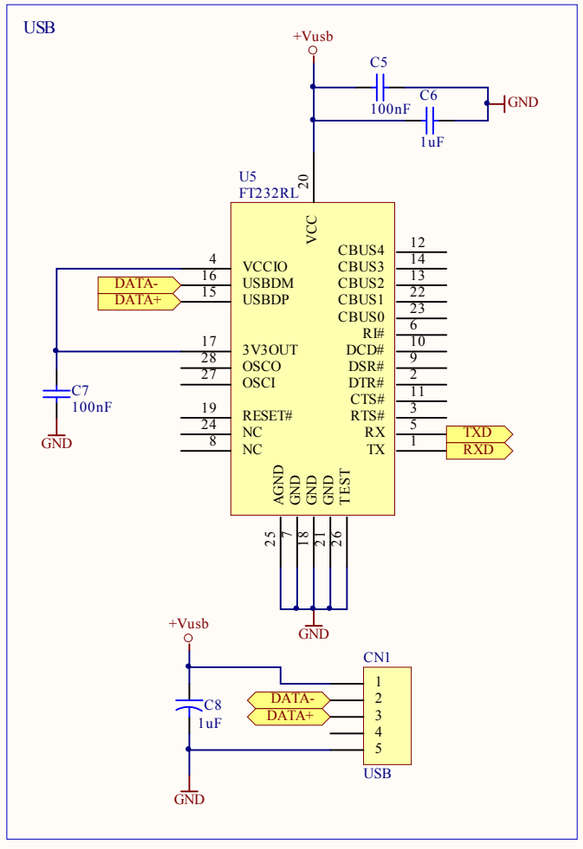
Edición

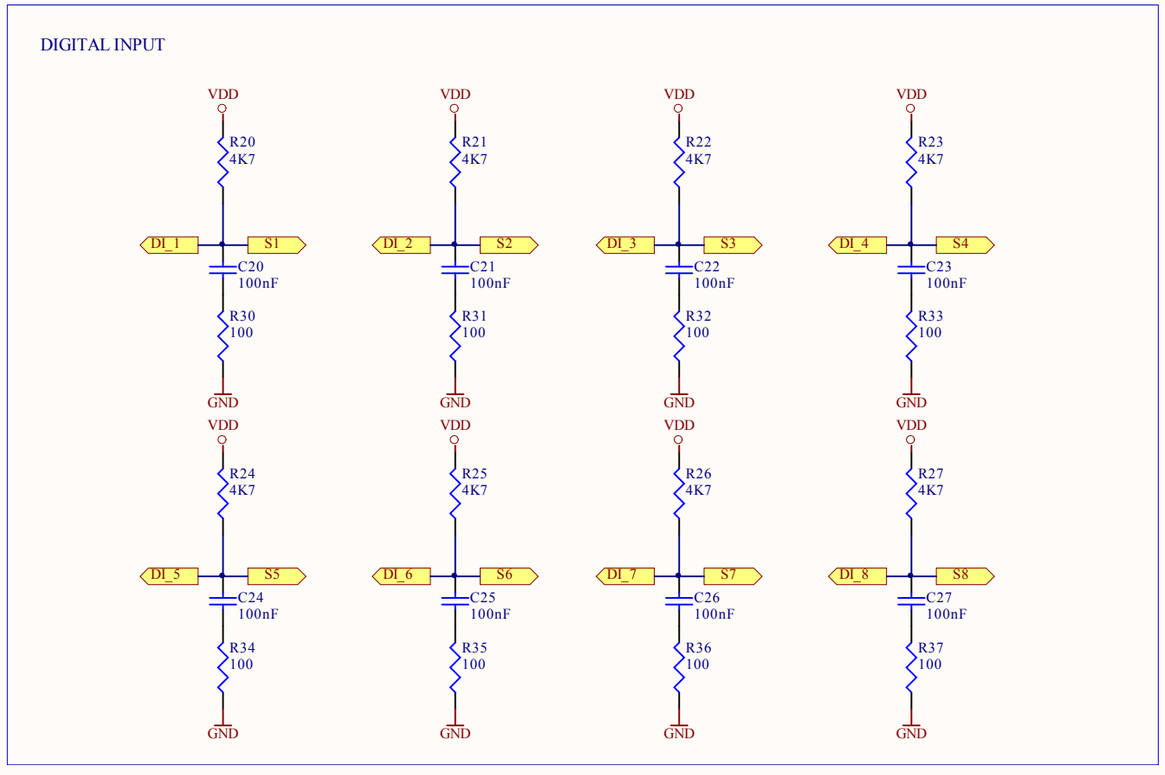
Hoja 1 / 1

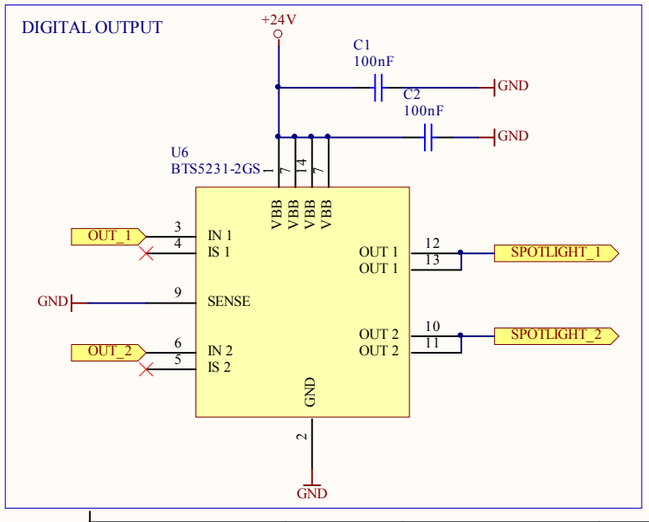



| | Fecha | Nombre |
|---|---|---|
| Dibujado | 18/08/2014 | ALOPEZ |
| Comprobado | 18/08/2014 | TRIBUNAL |
| Id. s. normas | | - |

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ESQUEMA ELECTRICO DEL CONTROLADOR

Nº P. : P:02.04

Nº O. : 111

Nom.Arch: CableBOT.SchDoc