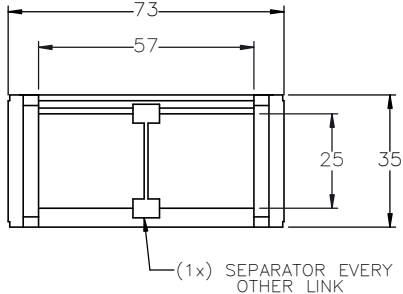
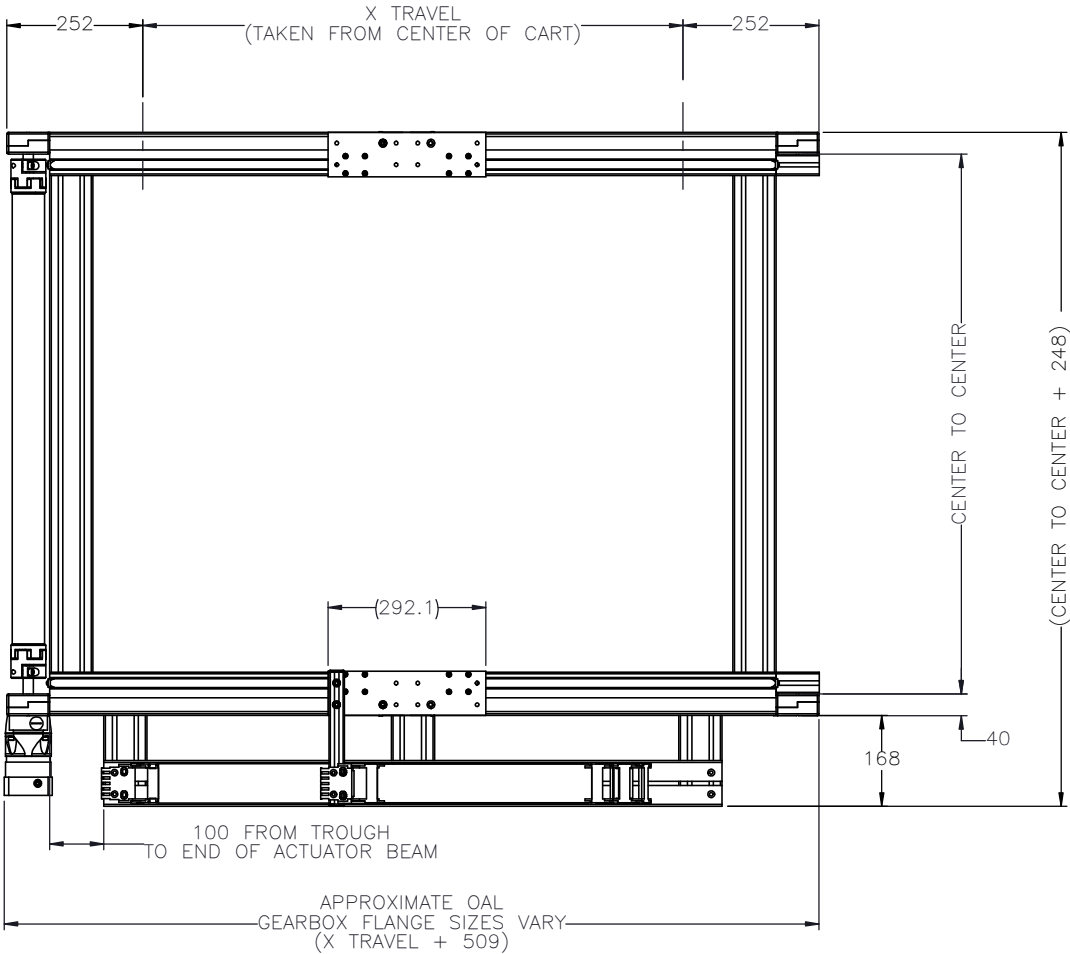
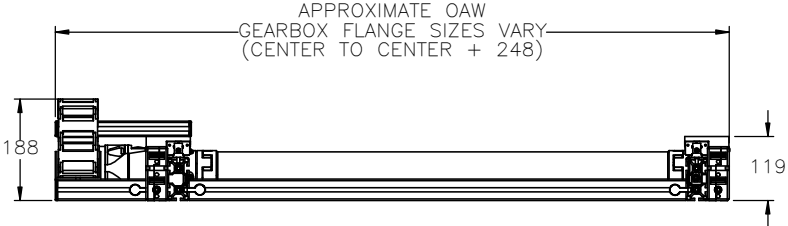
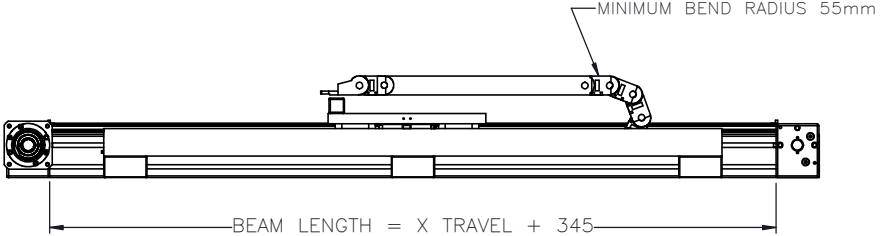





# GANTRY FOOTPRINT

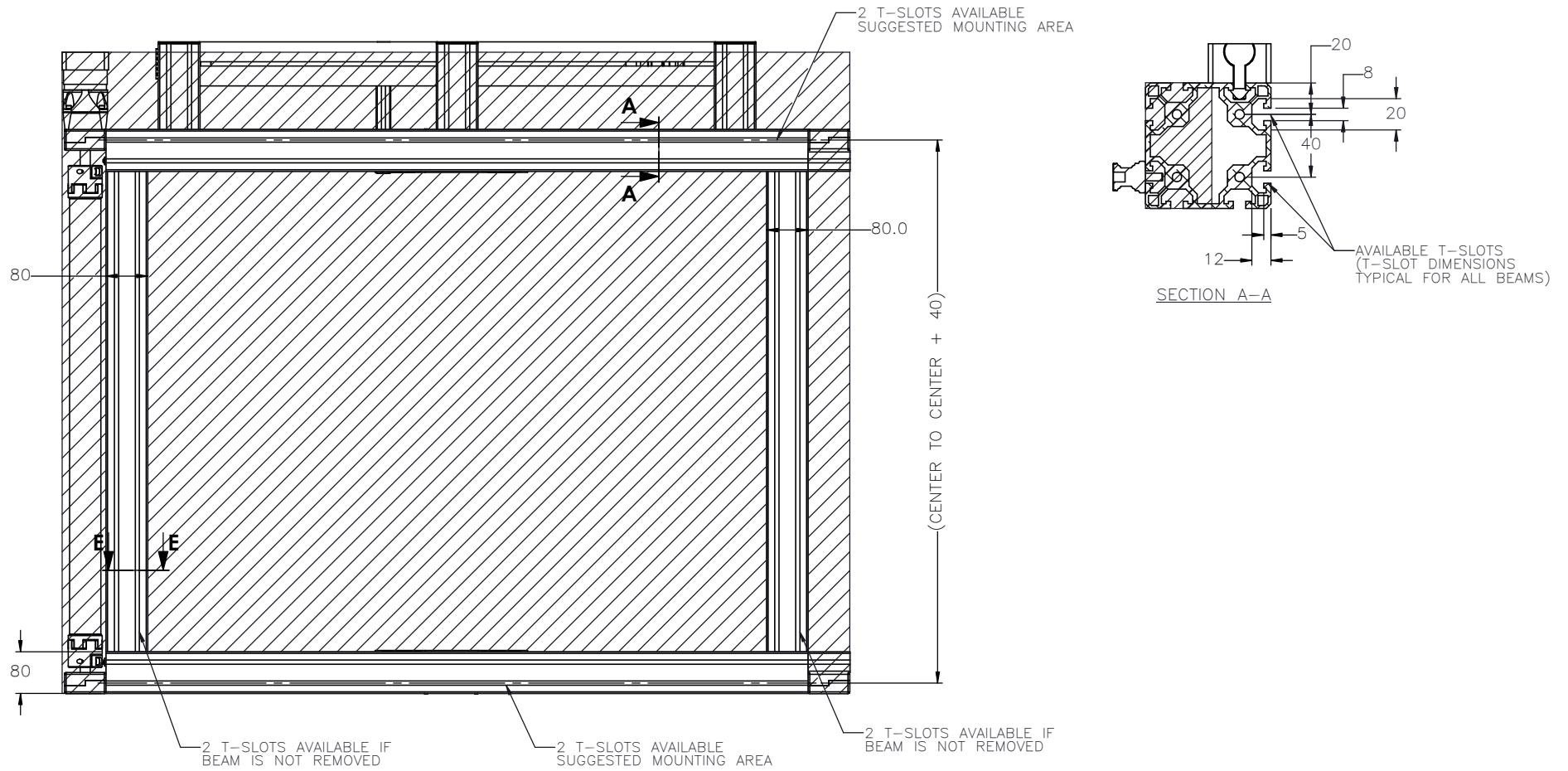


CABLE TRACK CROSS SECTION

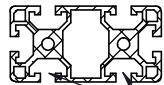


|   |  |   |   |               |
|---|--|---|---|---------------|
| <br><b>MACRON DYNAMICS INC</b> | DRAWN BY: PHW    DATE: 11/26/2017  | MATERIAL:   | TITLE:<br><b>MACRON R20 DUAL SYSTEM</b>     |               |
|   | CHECKED BY:    DATE: DD/MM/YYYY  | FINISH:   |   |               |
|   | LAST SAVED BY: Paul    DATE: 8/24/2020   | .X ± .762<br>.XX ± .254<br>.XXX ± .127<br>OTHERWISE: ANG ± 0°30'  | SCALE: 1:1                                  | SHEET SIZE: C |
|   | THIS DRAWING IS THE PROPERTY OF MACRON DYNAMICS. ANY REPRODUCTIONS SHALL BE FOR QUOTATION, MANUFACTURING, OR PURCHASING PURPOSES ONLY. RELEASE OF DRAWINGS TO OTHER CONCERNS DOES NOT CONSTITUTE LICENSING IN ANY WAY. INFORMATION CONTAINED HEREIN IS PROPRIETARY AND CONFIDENTIAL. | SURFACE FINISH: <input checked="" type="checkbox"/><br>BREAK ALL SHARP EDGES<br>DIMENSIONAL LIMITS APPLY AFTER FINISHING<br><b>THIRD ANGLE PROJECTION</b> | SHEET: 2 OF 6<br>PART NUMBER: MDS-R20-X-X-X | REV           |

# GANTRY MOUNTING FEATURES



## BOTTOM VIEW

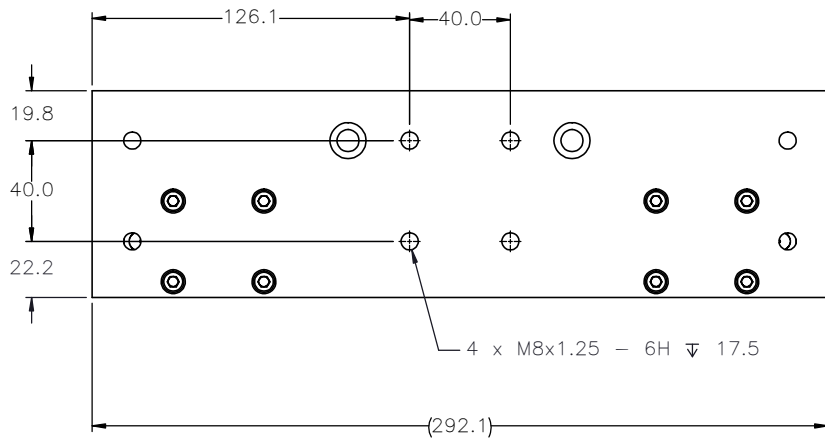
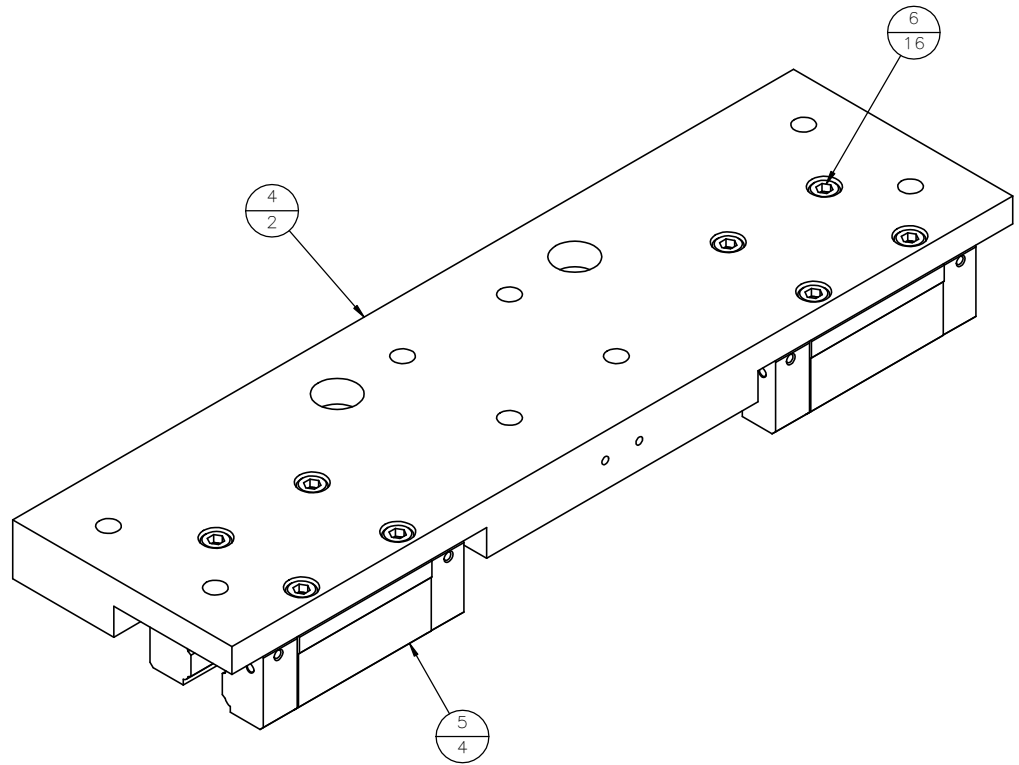


SECTION E-E (2X) T-SLOTS AVAILABLE


|                                |   |   |  |                               |
|--------------------------------|---|---|--|-------------------------------|
| <br><b>MACRON DYNAMICS INC</b> | DRAWN BY: PHW      DATE: 11/26/2017                 | MATERIAL:   | TITLE:<br><b>MACRON R20<br/>                 DUAL SYSTEM</b> |                               |
|                                | CHECKED BY:      DATE: DD/MM/YYYY                   | FINISH:   |  |                               |
|                                | LAST SAVED BY: Paul      DATE: 8/24/2020            | UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. TOLERANCES UNLESS NOTED OTHERWISE: | .X ± .762<br>.XX ± .254<br>.XXX ± .127<br>ANG ± 0°30'        | SCALE: 1:1      SHEET SIZE: C |
|                                | SURFACE FINISH: <input checked="" type="checkbox"/> | BREAK ALL SHARP EDGES<br>DIMENSIONAL LIMITS APPLY AFTER FINISHING<br>THIRD ANGLE PROJECTION   | SHEET: 3 OF 6      PART NUMBER: MDS-R20-X-X-X                | REV:                          |

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# R20 CART MOUNTING FEATURES



| ITEM | QTY. | PART NUMBER     | REV | DESCRIPTION            |
|------|------|-----------------|-----|------------------------|
| 1    | 1    | 289             | 07  | MACRON RAIL CART TOP   |
| 2    | 2    | 168-1622-814-20 |     | 20 SERIES RUNNER BLOCK |
| 3    | 8    | 523-12-ZP       |     | M5 x 12 SHCS-ZP        |

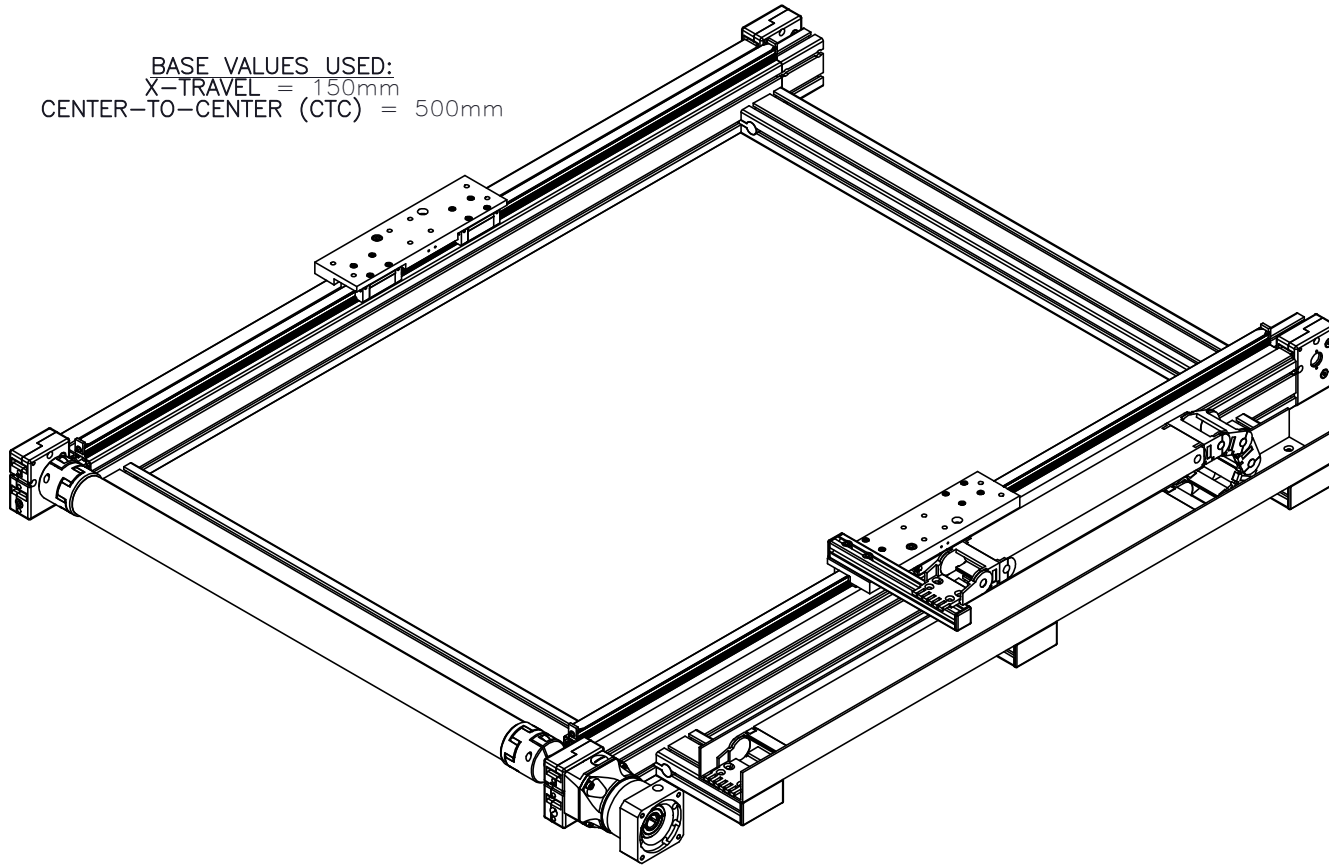
|   |  |                                       |            |
|---|--|---------------------------------------|------------|
| <br><b>MACRON DYNAMICS INC</b> | DRAWN BY: PHW    DATE: 11/26/2017<br>CHECKED BY:    DATE: DD/MM/YYYY<br>LAST SAVED BY: Tim    DATE: 8/24/2020  | MATERIAL:                             | TITLE:     |
|   | UNLESS OTHERWISE SPECIFIED,<br>DIMENSIONS ARE IN INCHES:<br>TOLERANCES UNLESS NOTED:<br>.X \u00b1 .03<br>.XX \u00b1 .010<br>.XXX \u00b1 .005<br>ANG \u00b1 0*30' | FINISH:                               | CSA-R20    |
|   | SURFACE FINISH <input checked="" type="checkbox"/><br>BREAK ALL SHARP EDGES<br>DIMENSIONAL LIMITS APPLY AFTER FINISHING<br><b>THIRD ANGLE PROJECTION</b>         | SHEET: 4 OF 6<br>PART NUMBER: MSA-R20 | SCALE: 1:1 |

THIS DRAWING IS THE PROPERTY OF MACRON DYNAMICS. ANY REPRODUCTIONS SHALL BE FOR QUOTATION, MANUFACTURING, OR PURCHASING PURPOSES ONLY. RELEASE OF DRAWINGS TO OTHER CONCERNS DOES NOT CONSTITUTE LICENSING IN ANY WAY. INFORMATION CONTAINED HEREIN IS PROPRIETARY AND CONFIDENTIAL.

# MOTOR SIZING WORKSHEET

(INCREMENTAL ADDERS REFER TO MASS PER TRAVEL LENGTH)

BASE VALUES USED:  
 X-TRAVEL = 150mm  
 CENTER-TO-CENTER (CTC) = 500mm




| PROPERTY             | BASE VALUE (T=150mm, CTC=500mm)                            |
|----------------------|--|
| **MOVING MASS        | 4.581kg(+.0341kg/25mm)                                     |
| BELT MASS            | 0.310kg(.012kg/25mm)                                       |
| PULLEY PITCH $\phi$  | 47.75mm (1.88")  |
| PULLEY WIDTH         | 28.9mm (1.14")   |
| PULLEY MATERIAL      | STEEL  |
| TORQUE TUBE LENGTH   | 461mm  |
| TORQUE TUBE $\phi$   | 60mm   |
| TORQUE TUBE MASS     | 1.544kg(+.036kg/25mm)                                      |
| TORQUE TUBE MATERIAL | ANODIZED ALUMINUM<br>ELASTOMER STYLE COUPLINGS<br>WITH HUB |
| TRAVEL PER REV       | 150mm  |

X-TRAVEL = \_\_\_\_\_ mm  
 CENTER TO CENTER (CTC) = \_\_\_\_\_ mm

NOTE: ALL SUPPLIED MASSES DO NOT INCLUDE CUSTOMER COMPONENTS (MOTORS, CABLES, ETC)

| GEARBOX MASS (ADD TO SYSTEM MASS) | MPG-064 | 1.0kg |
|-----------------------------------|---------|-------|
|                                   | MPG-084 | 2.3kg |
|                                   | MPG-114 | 5.8kg |
|                                   | MRG-064 | 3.0kg |
|                                   | MRG-084 | 5.6kg |
| MRG-114                           | 15.0kg  |       |

|   |  |                        |                                     |
|---|--|------------------------|-------------------------------------|
| TOTAL SYSTEM MASS   | $(X-TRAVEL \times .0163) + (CTC \times .0069) + 16.38 = \text{kg}$ |                        |                                     |
| <br><b>MACRON DYNAMICS INC</b>   | DRAWN BY: PHW  | DATE: 11/26/2017       | MATERIAL:                           |
|   | CHECKED BY:  | DATE: DD/MM/YYYY       | TITLE:<br>MACRON R20<br>DUAL SYSTEM |
|   | LAST SAVED BY: Paul  | DATE: 8/24/2020        |                                     |
| <small>UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. TOLERANCES UNLESS NOTED OTHERWISE:</small><br>.X $\pm$ .762<br>.XX $\pm$ .254<br>.XXX $\pm$ .127<br>ANG $\pm$ 0°30'   |  | FINISH:                | SCALE: 1:1 SHEET SIZE: C            |
| THIS DRAWING IS THE PROPERTY OF MACRON DYNAMICS. ANY REPRODUCTIONS SHALL BE FOR QUOTATION, MANUFACTURING OR PURCHASING PURPOSES ONLY. RELEASE OF DRAWINGS TO OTHER CONCERNS DOES NOT CONSTITUTE LICENSING IN ANY WAY. INFORMATION CONTAINED HEREIN IS PROPRIETARY AND CONFIDENTIAL. | SURFACE FINISH <input checked="" type="checkbox"/>                 | BREAK ALL SHARP EDGES  | SHEET: 5 OF 6                       |
| DIMENSIONAL LIMITS APPLY AFTER FINISHING  |  | THIRD ANGLE PROJECTION | PART NUMBER: MDS-R20-X-X-X          |

# SPECIFICATIONS

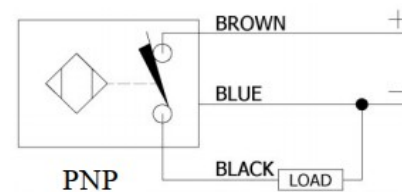
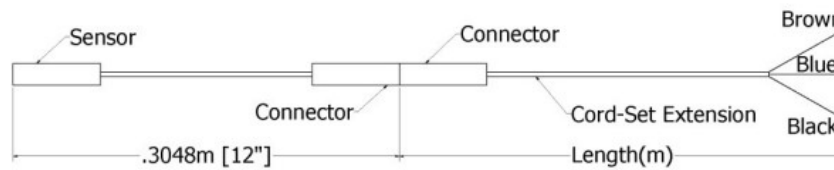
|                                       |                           |
|---------------------------------------|---------------------------|
| Sensor Type                           | Inductive                 |
| Sensor Size                           | Fits all 8mm wide T-Slots |
| Operating Voltage                     | 10-30 VDC                 |
| Voltage Drop Across Conducting Sensor | ≤1.8 V at 100 mA          |
| Number of Conductors (AWG)            | 3x26 AWG                  |
| Temperature Range                     | -40°C to 105°C            |

**Part Number Configuration**  
**244- - - - -**

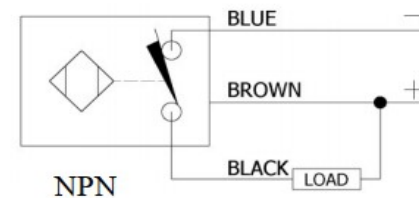
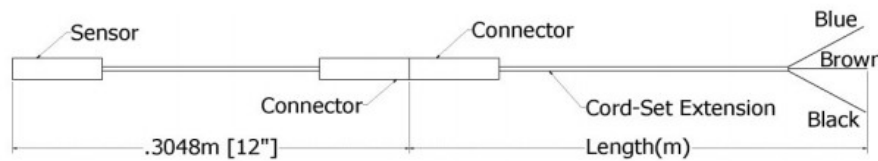
|            |          |    |        |
|------------|----------|----|--------|
| PNP or NPN | NC or NO | 02 | Meters |
| PNP or NPN | NC or NO | 06 | Meters |
| PNP or NPN | NC or NO | 12 | Meters |

Example: PNP, normally closed, cord-set extension length 6 meters = 244-PNP-NC-06

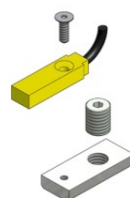
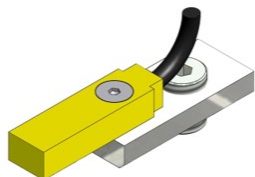
## PNP Diagrams




## NPN Diagrams



KIT INCLUDES – SENSOR, CORDSET EXTENSION, AND MOUNTING HARDWARE



|   |  |  |   |
|---|--|--|---|
| <br><b>MACRON DYNAMICS INC</b> | DRAWN BY: PHW    DATE: 11/26/2017<br>CHECKED BY:    DATE: DD/MM/YYYY<br>LAST SAVED BY: Paul    DATE: 8/24/2020   | MATERIAL:  | TITLE:                                    |
|   | UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS. TOLERANCES UNLESS NOTED OTHERWISE: .X ± .762 .XX ± .254 .XXX ± .127 ANG ± 0°30'   | FINISH:  | T-SLOT SENSOR KIT                         |
|   | SURFACE FINISH ✓   | SCALE 1:1  | SHEET SIZE C                              |
|   | THIS DRAWING IS THE PROPERTY OF MACRON DYNAMICS. ANY REPRODUCTIONS SHALL BE FOR QUOTATION, MANUFACTURING, OR PURCHASING PURPOSES ONLY. RELEASE OF DRAWINGS TO OTHER CONCERNS DOES NOT CONSTITUTE LICENSING IN ANY WAY. INFORMATION CONTAINED HEREIN IS PROPRIETARY AND CONFIDENTIAL. | BREAK ALL SHARP EDGES<br>DIMENSIONAL LIMITS APPLY AFTER FINISHING<br><b>THIRD ANGLE PROJECTION</b> | SHEET 6 OF 6<br>PART NUMBER MDS-R20-X-X-X |