



The BradControl™ IP67 I/O modules provide a reliable solution for connecting industrial controllers to I/O devices in harsh environments.

CANopen® Discrete I/O Modules

IP67 Compact 30mm Format

Features

- Compact design allows space savings for direct machine mount applications
- 8 port format uses M8 threaded connectors
- Standard hole pattern allows for interchangeability with popular I/O modules
- Supports PNP and NPN inputs
- Choose from several I/O configurations
- Visible diagnostics through status LEDs
- Easy to set rotary node ID switches
- Supports CANopen DS401 profile

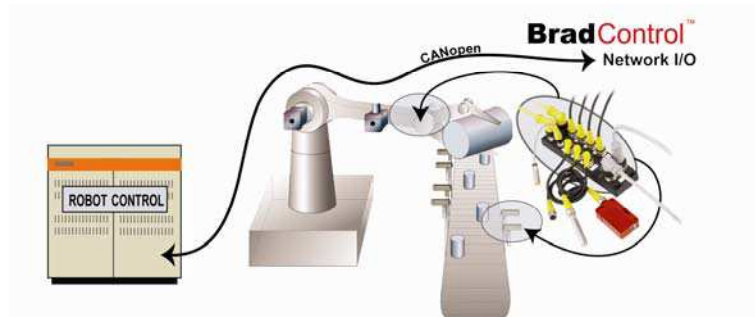
Typical Applications

- Machine tool industry
- Material handling systems
- Filling & packaging
- Steel industry



I/O Systems for Harsh Environments

The BradControl™ Compact 30mm I/O modules for CANopen® provide a reliable solution for connecting industrial controllers to I/O devices in harsh environments.



CANopen

Contained in a 30mm wide housing rated for IP67 environments, BradControl I/O modules can be machine mounted and are able to withstand areas where liquids, dust or vibration may be present. This makes them ideally suited for many applications including material handling equipment and automated assembly machinery.

To facilitate input and output device wiring, the BradControl Compact 30mm I/O modules for CANopen are available in an 8 port format using Nano-Change® 3-pole M8 style connectors.

Other features include the support of both PNP and NPN inputs and current sourcing outputs. Built-in diagnostic tools include the highly visible LEDs which provide maintenance personnel with the ability to easily determine I/O, module and network status.

CANopen specific features include "Easy to Set" rotary node ID switches that support CANopen DS401 profile.



LED Indicators

CANopen Network Status (NET):

Green – operational
 Single flash – stopped
 Blinking – pre-operational

ERR Diagnostics (MOD):

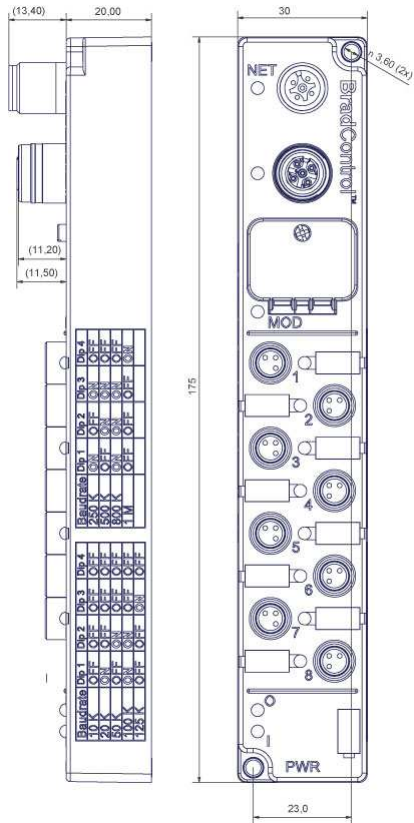
Green – no error
 Single flash – warning limit reached
 Double flash – error control event
 Triple flash – sync Error
 Red – bus off

Power (PWR):

Green – power present
 Off – power not connected

Input / Output:

(8 Port - 1 to 8)
 Green – input / output on
 Red – input / output fault



Technical Information

I/O Configurations	Full configurable
I/O Connectors – 8 Port	Nano-Change [®] 3-pole threaded M8 female
Bus Connectors	Micro-Change [®] 5-pole M12 Ultra-Lock™ male (bus in) Micro-Change 5-pole M12 Ultra-Lock™ female (bus out)
Power Requirements	Module & output power : 24 Vdc, input devices + module Output power : 24 Vdc (13 to 28V), 4A max per module
Baud Rate Settings	Auto baud 10, 20, 50, 100, 125, 250, 500, 800, 1000 K
Address Settings	1 – 100 using rotary switches
Input Type	Compatible with dry contact and PNP or NPN 3-wire switches. Electronic short circuit protection.
Input Delay	2.5 ms default or configurable through CANopen [®] object
Input Device Supply	200 mA per port at 25°C
Output Load Current	Maximum 2.0 A per channel Electronic short circuit protection
Maximum Switching Frequency	300 Hz
Housing Dimensions	30 x 175 x 20 mm (1.18 x 6.89 x 0.78 inches)
Mounting Dimensions	23 mm (0.91 inches) horizontal on centers 168 mm (6.61 inches) vertical on centers Center hole
I/O Data	Synchronous Acyclic, Synchronous (Sync) and Asynchronous
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Storage Temperature	-25°C to 85°C (-13°F to 185°F)
RH Operating	5 to 95% non-condensing
EMC	IEC 61000-6-2
Protection	IP67 according to IEC 60529
Vibration	IEC 60068-2-6 conformance
Shock	10G, 11ms, 3 axis
Approvals	CANopen certification, UL, CUL, CE

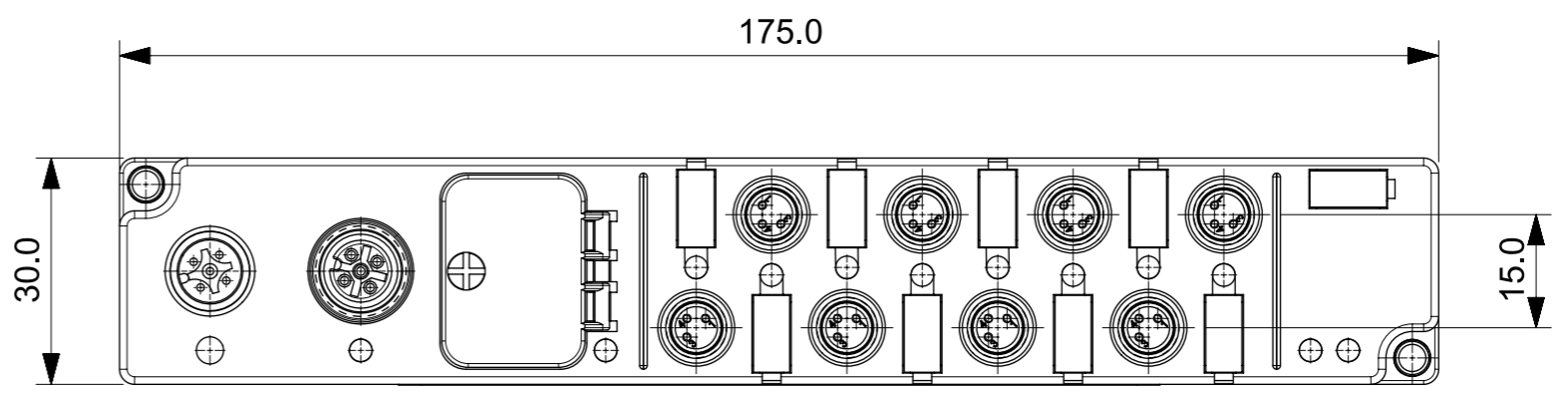
Ordering Information

Part Number	Product Description
TBDCO-880P-804	8 inputs PNP
TBDCO-862P-804	6 inputs PNP, 2 outputs sourcing
TBDCO-844P-804	4 inputs PNP, 4 outputs sourcing
TBDCO-808P-804	8 outputs sourcing
TBDCO-880N-804	8 inputs NPN
TBDCO-862N-804	6 inputs NPN, 2 outputs sourcing
TBDCO-844N-804	4 inputs NPN, 4 outputs sourcing
TBDCO-8YYX-804	8 universal or user configurable input / output channels

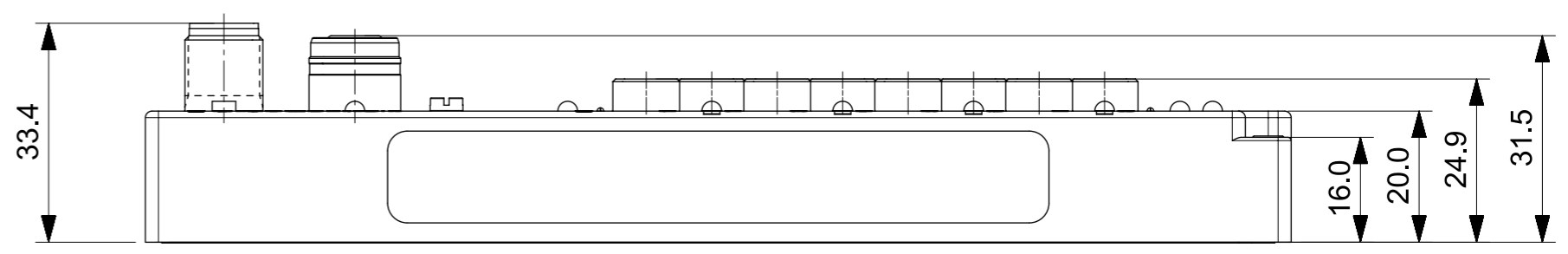
*Consult factory for availability

9 8 7 6 5 4 3 2 1

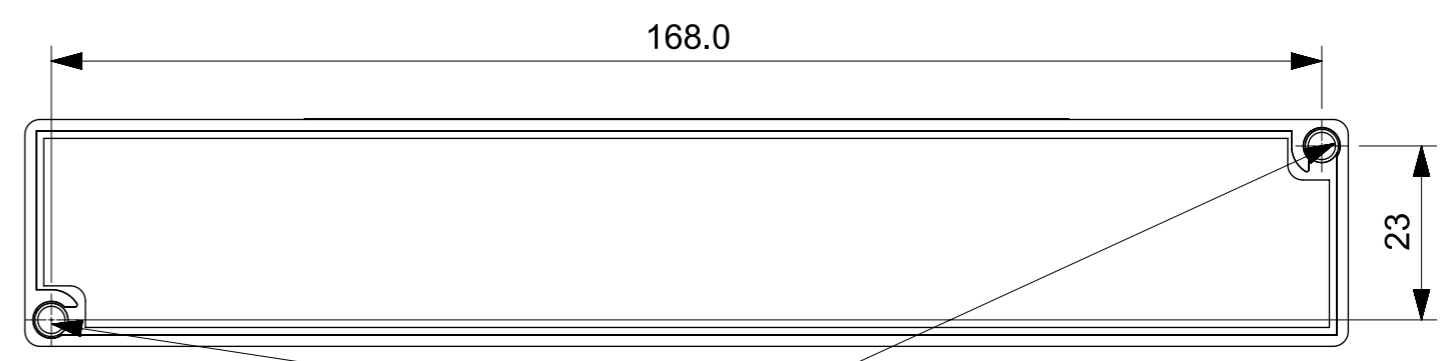
E



D

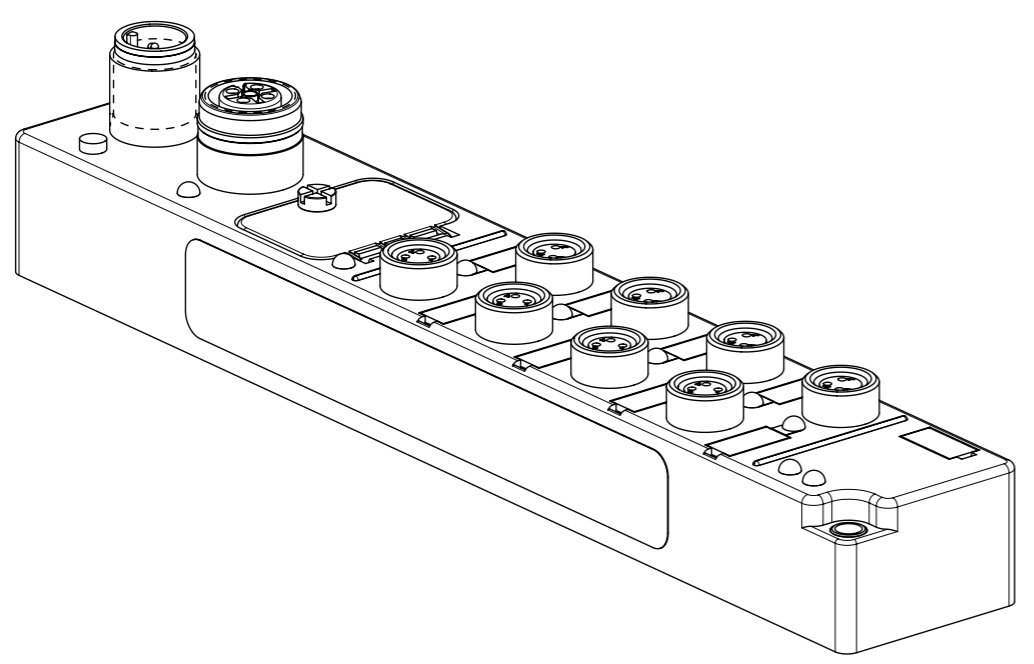


C



B

2x FIXING HOLES
SUITABLE FOR M4
SCREWS



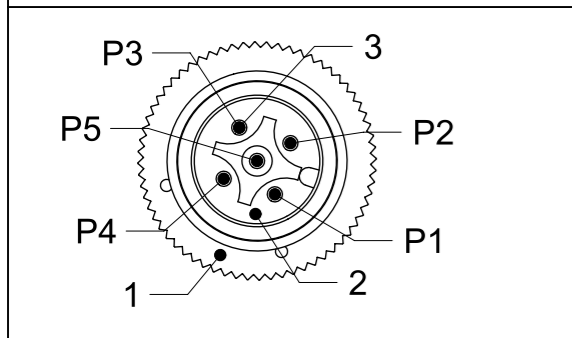
A

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION									
QUALITY SYMBOLS ▽A = 0 ▽E = 0 ▽F = 0 ▼ = 0 ▽C = 0 ⊗ = 0 ■ = 0 ▽ = 0	2015/09/25 EC NO: 101496 DRWN: AAHLERS CHK'D: APPR:	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± °		DIMENSION UNITS MM	SCALE 1:1	 DBO CAN OPEN 30 MM M12 4P MA DC M12 4P FE DC M8 3P 8PT FE			
		4 PLACES ± 3 PLACES ± 2 PLACES ± 1 PLACE ± 0.3 0 PLACES ± 0.5	DRWN BY ULETTENMEIER	DATE 2015/01/26	CHK'D BY DATE				
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DRAWING SIZE A3	THIRD ANGLE PROJECTION 	PRODUCT CUSTOMER DRAWING			
				SERIES 112098	MATERIAL NUMBER SEE TABLE 1	CUSTOMER GENERAL MARKET			
				DOCUMENT NUMBER 1120985001		DOC TYPE PSD	DOC PART 000	SHEET NUMBER 1 OF 3	

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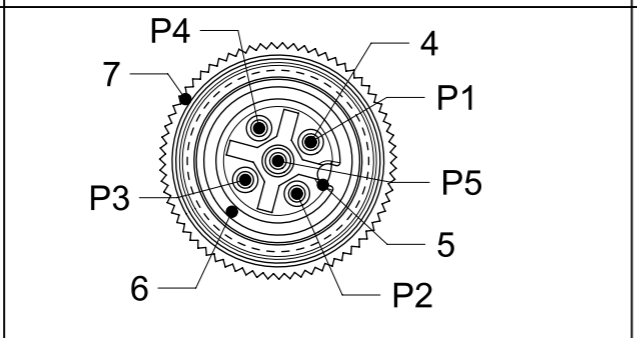
FORMAT: master-b-prod-A3
REVISION: D
DATE: 2015/09/04

A
BUS IN:
1x MALE M12 5P A-CODE



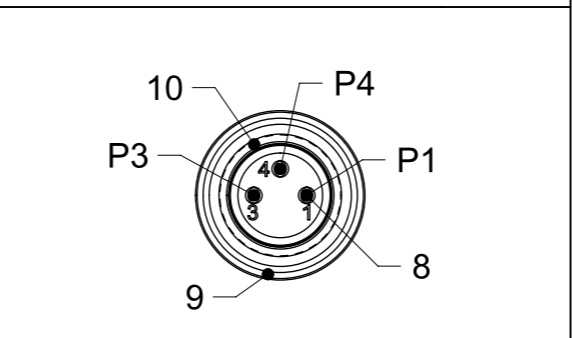
WIRING INFORMATION:
P1 - Drain
P2 - V+ (24VDC)
P3 - V- (0VDC)
P4 - CAN_H
P5 - CAN_L

B
BUS OUT:
1x FEMALE M12 5P A-CODE

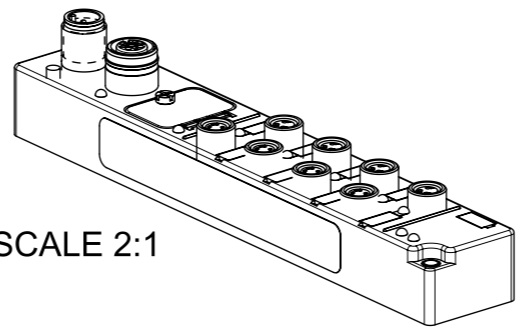
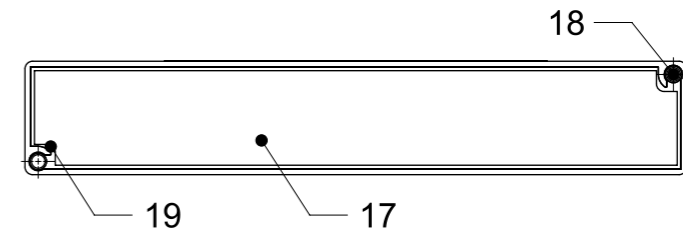
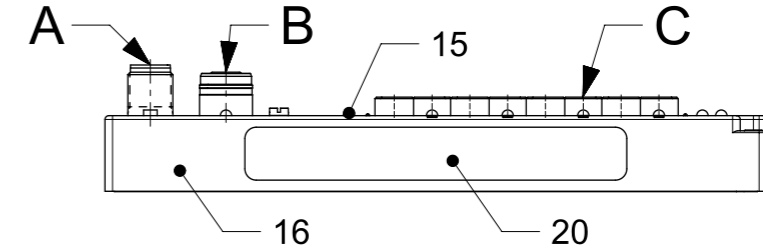
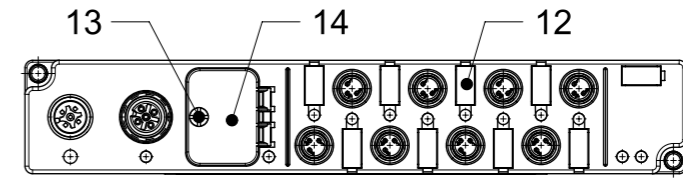


WIRING INFORMATION:
P1 - Drain
P2 - V+ (24VDC)
P3 - V- (0VDC)
P4 - CAN_H
P5 - CAN_L

C
INPUT / OUTPUT:
8x FEMALE M8 3P



WIRING INFORMATION
P1 - +24 VDC
P3 - 0 V (Ground)
P4 - Input or Output Signal

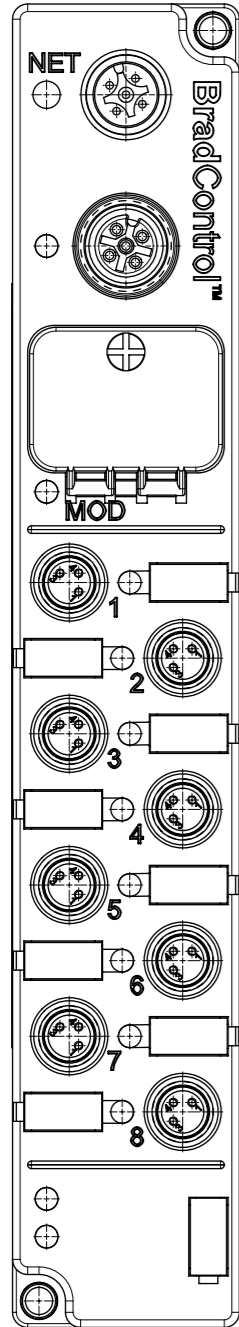


SCALE 2:1

BILL OF MATERIAL

ITEM	DESCRIPTION	MATERIAL	FINISH
1	SHELL	BRASS	NICKEL PLATET
2	INSERT	TPU	BLACK
3	CONTACT	COPPER ALLOY	GOLD OVER NICKEL
4	CONTACT	COPPER ALLOY	GOLD OVER NICKEL
5	INSERT	TPU	BLACK
6	GASKET	FPM	RED
7	SHELL	BRASS	NICKEL PLATET
8	CONTACT	COPPER ALLOY	GOLD OVER NICKEL
9	SHELL	BRASS	NICKEL PLATET
10	GASKET	FKM	RED
11	INSERT	TPU	BLACK
12	LABEL	PC	WHITE
13	SCREW	V2A	V2A
14	WINDOW	PC	TRANSPARENT
15	LED	PA	TRANSPARENT
16	HOUSING	PBT	BLACK
17	LABEL	PVC	WHITE
18	SLEEVE	BRASS	NICKEL
19	RESIN	EPOXY	TRANSPARENT
20	LABEL	PVC	YELLOW

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	<p>2015/09/25</p>	<p>GENERAL TOLERANCES (UNLESS SPECIFIED)</p> <p>ANGULAR TOL ± °</p>		<p>DRWN BY: ULETTENMEIER</p> <p>DATE: 2015/01/26</p>		
	<p>EC NO: 101496</p> <p>DRWN: AAHLERS</p> <p>CHK'D:</p> <p>APPR:</p>	<p>4 PLACES ±</p> <p>3 PLACES ±</p> <p>2 PLACES ±</p> <p>1 PLACE ± 0.3</p> <p>0 PLACES ± 0.5</p>	<p>CHK'D BY: RSILLER</p> <p>DATE: 2015/05/20</p>			<p>SERIES: 112098</p> <p>MATERIAL NUMBER: SEE TABLE 1</p> <p>CUSTOMER: GENERAL MARKET</p>
		<p>DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS</p>		<p>DRAWING SIZE: A3</p> <p>THIRD ANGLE PROJECTION</p>		<p>DOCUMENT NUMBER: 1120985001</p> <p>DOC TYPE: PSD</p> <p>DOC PART: 000</p> <p>SHEET NUMBER: 2 OF 3</p>



UNIVERSAL PRINTING

TABLE 1 UNIVERSAL PRINTING					
		CAN OPEN			
POWER TYPE	INPUT / OUTPUT	ENG.NO.	MOLEX P/N	3D MODEL NO.	
M12 5 POLE	NPN	8I	TBDCO-880N-804	1120985006	
		6I/2O	TBDCO-862N-804	1120985004	
		4I/4O	TBDCO-844N-804	1120985002	
	PNP	8I	TBDCO-880P-804	1120985007	1120985001 (PDM)
		6I/2O	TBDCO-862P-804	1120985005	
		4I/4O	TBDCO-844P-804	1120985003	
		8O	TBDCO-808P-804	1120985001	
		8I/O USER CONGIG.	TBDCO-8YYX-804	1120985008	

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		ANGULAR TOL ± °		MM	1:1							
		4 PLACES ±	DRWN BY	DATE								
		3 PLACES ±	ULETTENMEIER	2015/01/26	CHK'D BY	DATE						
		2 PLACES ±	APPR BY	DATE	PRODUCT CUSTOMER DRAWING							
	1 PLACE ± 0.3	RSILLER	2015/05/20	SERIES	MATERIAL NUMBER	CUSTOMER						
	0 PLACES ± 0.5	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DRAWING SIZE	THIRD ANGLE PROJECTION	112098	SEE TABLE 1	GENERAL MARKET				
	A3					DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER			
	A2					1120985001	PSD	000	3 OF 3			