

NOTES UNLESS SPECIFIED OTHERWISE:

- 1. DIMENSIONS ARE FOR INSTALLATION PURPOSES ONLY
- 2. THIS DRAWING SHALL NOT BE USED FOR FABRICATION.
- 3. CAUTION: THIS UNIT CONTAINS DEVICES SUSCEPTIBLE TO DAMAGE BY ELECTROSTATIC DISCHARGE. HANDLE PER THE ESD PROCEDURES OF IPC-A-610



4. WEIGHT 9.00 LBS (4.08 KG) MAX.

5 THIS UNIT SHALL BE MOUNTED ONLY IN A 2MCU TRAY PER ARINC 600 WITH MATING CONNECTOR, RADIALL P/N: NSXN2P22IS0908 OR EQUIVALENT

6 SEE TABLE 3 FOR ENVIRONMENTAL AND ELECTRICAL CHARACTERISTICS. THE HPA SHALL MEET THE REQUIREMENTS OF RTCA/DO-160G.

7. ELECTRICAL:
NOMINAL INPUT SUPPLY VOLTAGE: 115VAC
POWER CONSUMPTION: 210W TYPICAL (250W MAX.)

POWER DISSIPATION: 180W TYPICAL (210W MAX.)
POWER FACTOR: 0.985 MINIMUM LEADING AT 400Hz
CURRENT DRAW: 1A TYP/2.2A MAX AT 115 VAC.

8. APPROXIMATE CENTER OF GRAVITY IS SHOWN BY

9. MATERIAL (CHASSIS): ALUMINUM ALLOY 6061-T651 PER AMS4027, OR 6061-T651 PER AMS-QQ-A-20078
(COVER) ALUMINUM ALLOY 5052-H32 PER SAE AMS-QQ-A-250 ASTM B209, SAE AMS-4016 (.063 THICK)

FINISH: CHASSIS/COVER
POWDER COATING, PRISM GRAPHITE LOW GLOSS, PA-0191-LT
CHEMICAL CONVERSION COATING, NO HEXAVALENT CHROMIUM,
SurTec650V PER MIL-DTL-5541, TYPE II, CLASS 3

10. N/A

11 PRIMARY AIRFLOW DIRECTION SHOWN. DRAW-THROUGH DIRECTION OPPOSITE.

12. COOLING REQUIREMENTS:
FOR INSTALLATION WITHIN PRESSURE VESSEL
- DRAWN THROUGH AMBIENT AIRFLOW OF 521 LPM (18.4 CFM) AT -55°C TO +70°C (-67°F TO +158°F)
- PRESSURE DROP AT SEA LEVEL AND 40°C (104°F)
50±30 PA (0.20±0.12 IN H₂O), 47 PA (0.19 IN H₂O) TYPICAL MEASURED

FOR INSTALLATION WITHIN PRESSURE VESSEL
- BLOWN THROUGH CONDITIONED AIRFLOW OF 521 LPM (18.4 CFM) AT -55°C TO +55°C (-67°F TO +131°F)
- PRESSURE DROP AT SEA LEVEL AND 40°C (104°F)
50±30 PA (0.20±0.12 IN H₂O)

FOR INSTALLATION OUTSIDE PRESSURE VESSEL
- BLOWN THROUGH AMBIENT AIRFLOW OF 1183 LPM (41.8 CFM) AT -55°C TO +70°C (-67°F TO +158°F)
- PRESSURE DROP AT SEA LEVEL AND 40°C (104°F)
250±50 PA (1.0±0.2 IN H₂O)

13. INTERNAL FAN USED DURING LOSS OF COOLING CONDITION:
- FLOW RATE 420 LPM (14.83 CFM) AT SEA LEVEL AND 20°C (68°F)
- FAN FILTRATION REQUIREMENTS: NONE

14 UPON CAN-TSO CERTIFICATION, THE HPA SHALL HAVE THE FOLLOWING MARKING:
CAN-TSO-C159d (Class/Subclass See IM).

15 THIS AREA FREE OF PAINT

16 ELECTROSTATIC SENSITIVE DEVICE (ESD) LABEL.

17. OVER TEMPERATURE SHUTDOWN THRESHOLD: 105°C (221°F)

18 HOT SURFACES WARNING LABEL.

19 FCC APPROVAL LABEL.

20 TAMPERPROOF LABEL.

21 250V WARNING LABEL.

22 SHADED AREA INDICATES EXTENDED PART IN POLARIZING INSERTS

23 ELECTRICAL BONDING SHALL BE THROUGH
ARINC 600 CONNECTOR SHELL. BONDING
TEST POINT AVAILABLE ON FRONT PANEL.
DC BONDING RESISTANCE SHALL BE 5.0
MILLIOHMS OR LESS.

- 24 N/A
- 25 ASTERISK INDICATES CATEGORIES THAT ARE EXTENDED.
- 26 INTERNAL FAN AIRFLOW DIRECTION FOR LOSS OF AIRPLANE COOLING CONDITION

27. UPON CERTIFICATION, ISEDC APPROVAL LABEL WILL BE ADDED.

TABLE 1: HPA ASSEMBLY PART NUMBER

PART NUMBER	DESCRIPTION
90404514-000R	HPA ASSEMBLY, RED LABEL

TABLE 2: HPA ASSEMBLY CONNECTOR IDENTIFICATION

REF DESIGNATOR	PART NUMBER	MATING CONNECTOR	REMARKS
JI	HON 50054601 RADIALL NSXF2R221Y0908	RADIALL NSXN2P22IS0908	JI-A TOP INSERT ARRANGEMENT IC71 (70X #22 CONTACTS, 1X SIZE 1 COAX)
			JI-B MIDDLE INSERT ARRANGEMENT 71C1 (70X #22 CONTACTS, 1X SIZE 1 COAX)
			JI-C BOTTOM INSERT ARRANGEMENT 13C2 (4X #20 CONTACTS, 3X #16 CONTACTS, 4X #12 CONTACTS, 2X #5 CONTACTS)

TABLE 3: SYSTEM REQUIREMENTS

RTCA/DO-160G SECTION	NAME	CATEGORY
4	TEMPERATURE AND ALTITUDE	F2 (COOLANT BLOWN)
4	TEMPERATURE AND ALTITUDE	A2 (COOLANT DRAWN)
4	TEMPERATURE AND ALTITUDE	A2 (COOLANT BLOWN)
4	DECOMPRESSION/OVERPRESSURE	A2
4	LOSS OF COOLING	Z
5	TEMPERATURE VARIATION	A
6	HUMIDITY	B
7	OPERATIONAL SHOCKS AND CRASH SAFETY	D,B
8	VIBRATION	S CURVE: C R CURVE: C1
9	EXPLOSION PROOFNESS	E
10	WATERPROOFNESS	Y
11	FLUIDS SUSCEPTIBILITY	F
12	SAND AND DUST	S
13	FUNGUS RESISTANCE	F
14	SALT SPRAY	S
15	MAGNETIC EFFECT	Z
16	POWER INPUT	A(WF)HZPI*
17	VOLTAGE SPIKE	A*
18	AUDIO FREQUENCY CONDUCTED SUSCEPTIBILITY	R(WF)*
19	INDUCED SIGNAL SUSCEPTIBILITY	CWX*
20	RADIO FREQUENCY SUSCEPTIBILITY (RADIATED AND CONDUCTED)	RR
21	EMISSION OF RADIO FREQUENCY ENERGY	M*
22	LIGHTNING INDUCED TRANSIENT SUSCEPTIBILITY	A3J3L3 B2H2L2
23	LIGHTNING DIRECT EFFECTS	XXXX
24	ICING	X
25	ELECTROSTATIC DISCHARGE (ESD)	A
26	FIRE, FLAMMABILITY	C

OUTLINE & INSTALLATION

ANGULAR DIMENSIONS	xx°	xx°xx'	UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCHES AND TOLERANCES APPLY AS SHOWN BELOW.	FIRST USED ON	100 OR OUTLINE NO
ALL ANGLES	±15'	±5'		NEXT ASSY	90405332
SURFACE ROUGHNESS	MICROINCH 63	MICRON 1.6	INCHES	DRAWN BY	G. UFFELMAN
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994			UNLESS OTHERWISE SPECIFIED: RADII XXXX 010 NO INTERNAL CORNER RADIUS - .003 ALLOWED	CHECKED BY	N. TROJANOWSKI
THE INFORMATION CONTAINED HEREIN IS PROPRIETARY TO COM DEV LTD AND IS TO BE USED BY THE RECIPIENT SOLELY FOR THE PURPOSE FOR WHICH IT IS SUPPLIED. IT SHALL NOT BE DISCLOSED, IN WHOLE OR IN PART, TO ANY OTHER PARTY WITHOUT COM DEV LTD PRIOR PERMISSION.			UNTOLERANCED DIMENSION	DECIMAL PLACES	
PROJECTION			BELOW 6	±.01	±.005
			6 TO 24	±.03	±.010
			OVER 24	±.05	±.020
UNLESS OTHERWISE SPECIFIED: RADII XXXX 010 NO INTERNAL CORNER RADIUS - .003 ALLOWED			UNTOLERANCED DIMENSION	DECIMAL PLACES	
			BELOW 152.4	±.3	±.13
			152.4 TO 609.6	±.8	±.25
UNLESS OTHERWISE SPECIFIED: RADII XXXX 010 NO INTERNAL CORNER RADIUS - .003 ALLOWED			UNTOLERANCED DIMENSION	DECIMAL PLACES	
			OVER 609.6	±1.3	±.51

CURRENT DESIGN ACTIVITY CAGE CODE 38101 HONEYWELL - CAMBRIDGE

REV	DESCRIPTION (ECN NO)	IMPL BY	APVD BY	DATE
M	ECN NO 8016879	GWU	SL	200305
L	ECN NO 8016292	GWU	SL	200129
K	ECN NO 8014712	GWU	SL	191010
J	ECN NO 8013508	GWU	KF	190701
H	ECN NO 8012299	GWU	KF	190528
G	ECN NO 8011668	GWU	KF	190425
F	ECN NO 8009401	GWU	KF	181214
E	ECN NO 8008162	GWU	KF	181015
D	ECN NO 8007159	GWU	KF	180808
C	ECN NO 8006153	GWU	KF	180612
B	ECN NO 8005972	GWU	KF	180604
A	ECN NO 8005501	GWU	KF	180508

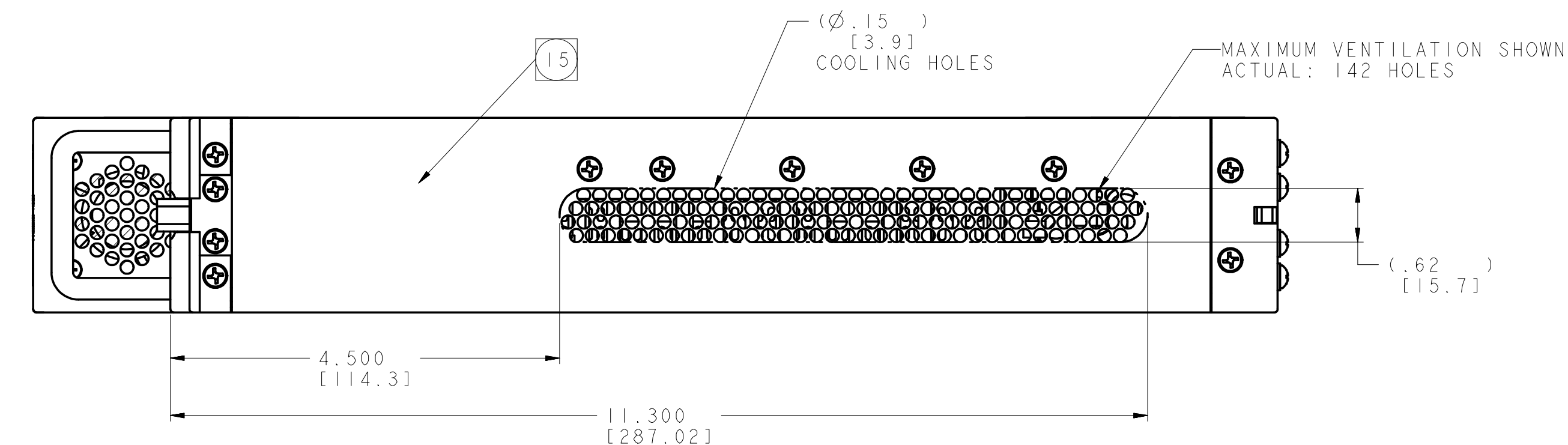
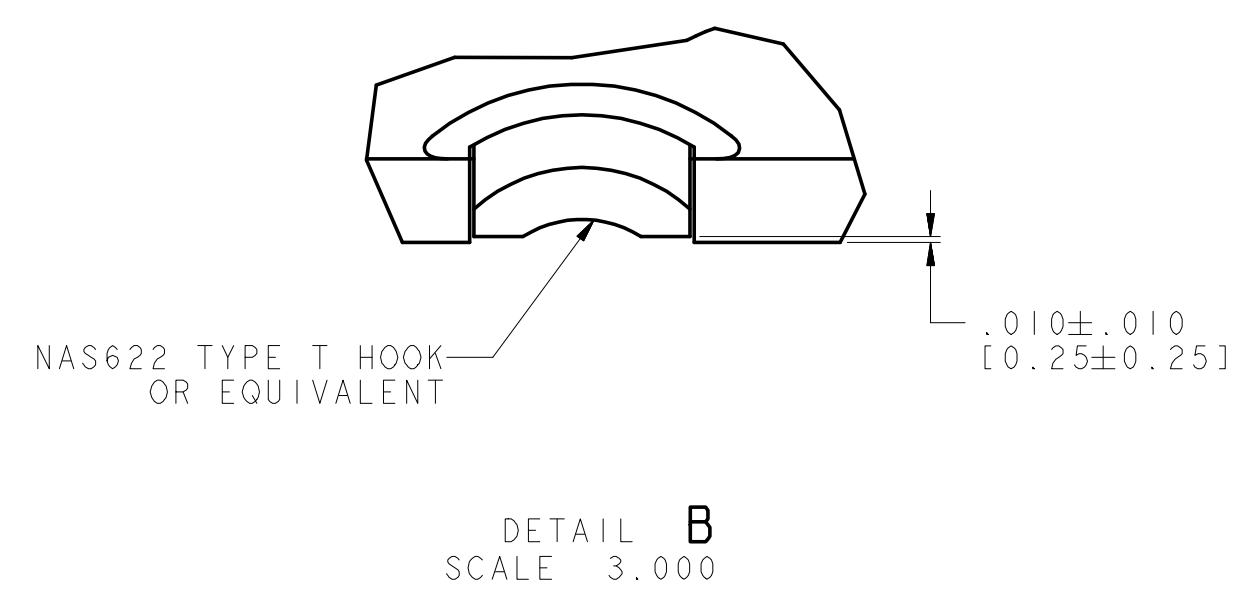
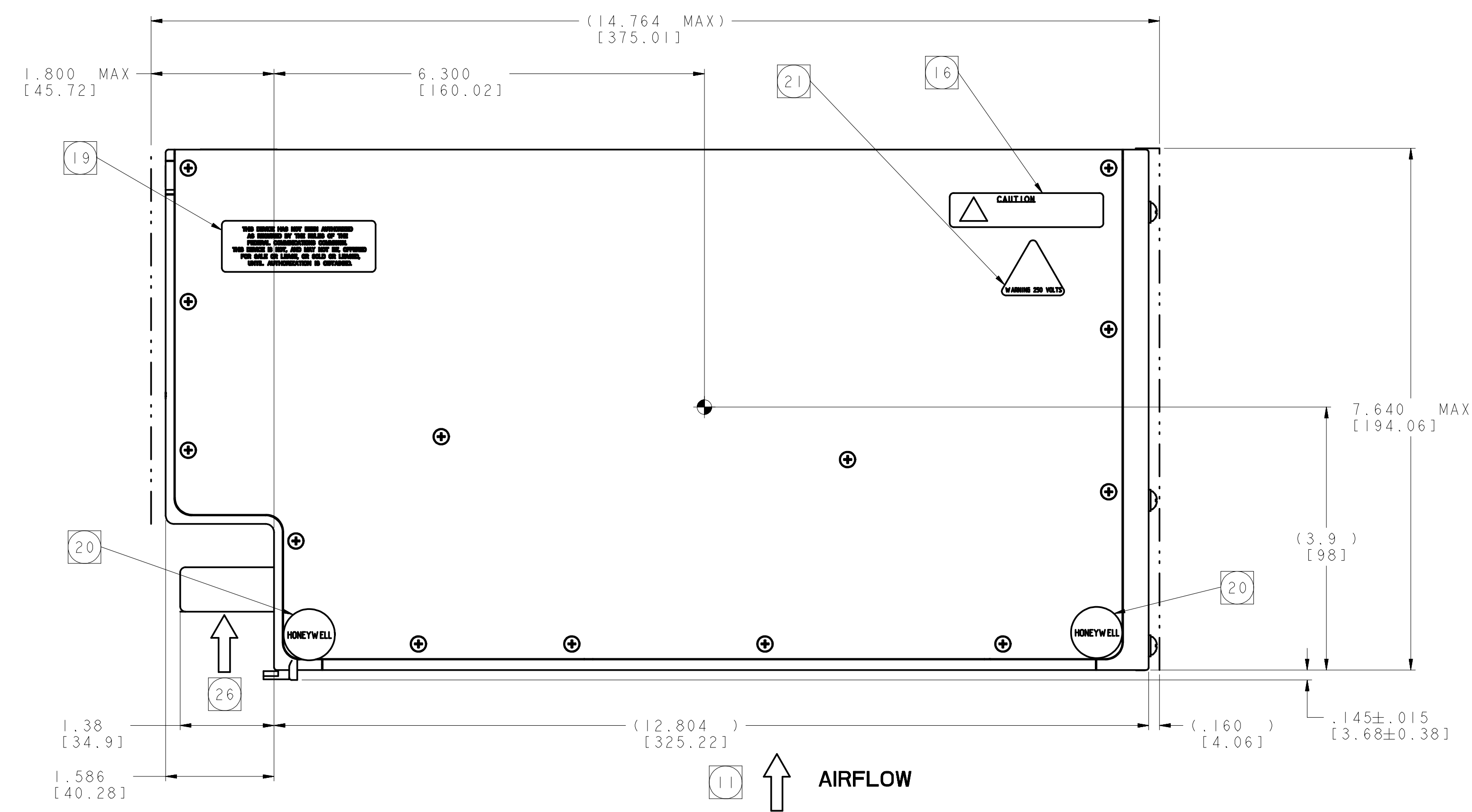
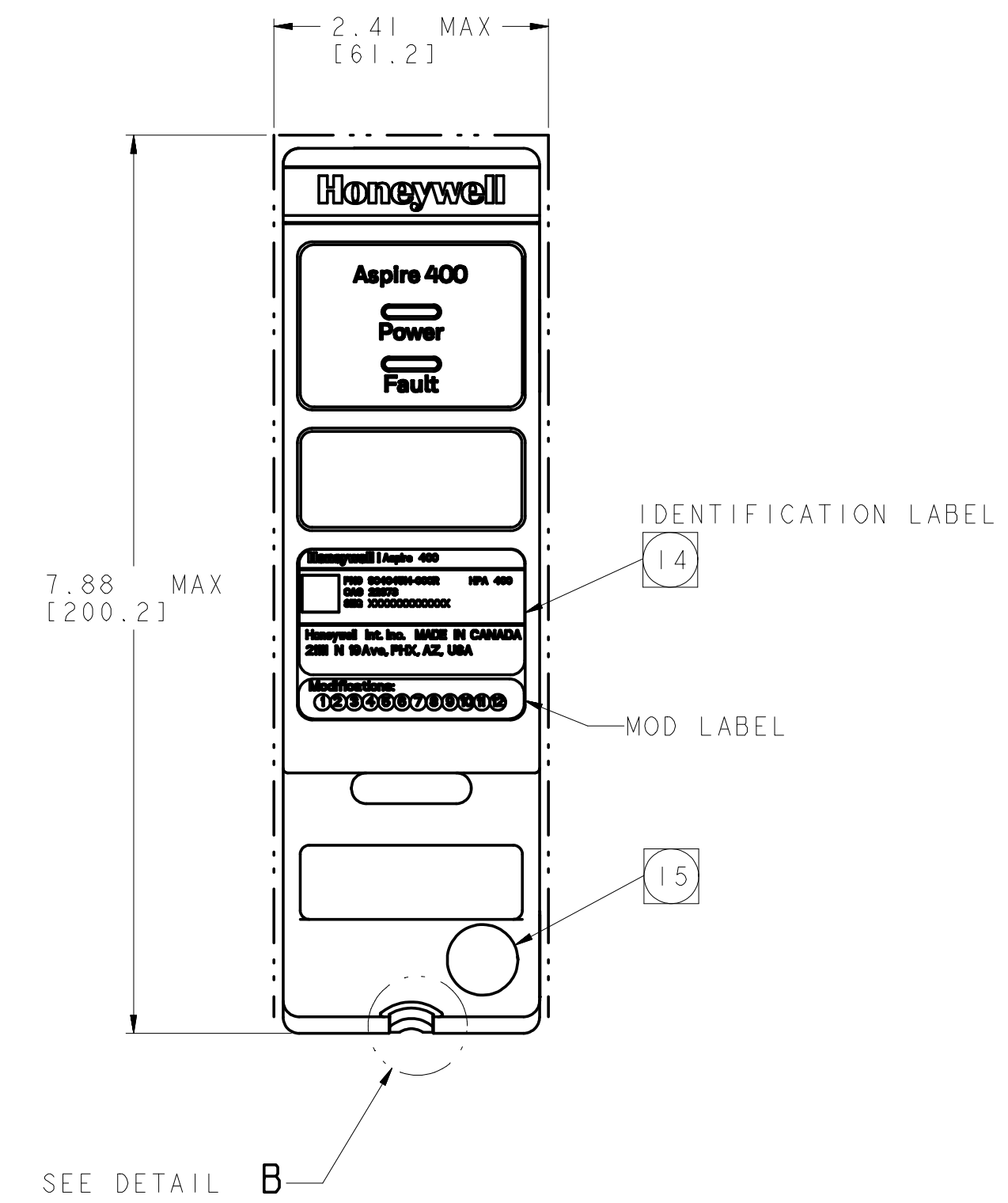
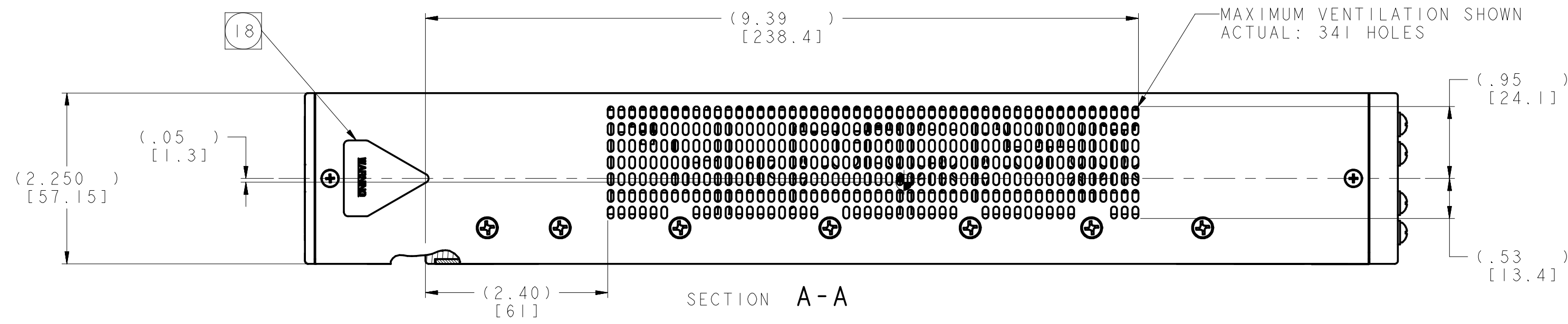
COM DEV® 155 SHELDON DRIVE CAMBRIDGE, ONTARIO CANADA N1R 7H6

OUTLINE & INSTALLATION
ASPIRE 400
HPA

SIZE: FSCM NO: D 38473 DRAWING NO: 90405332 REV: M

SCALE: 0.750 SHEET 1 OF 3

PRODUCTION - Released - 10 Mar 2020 14:22:29 UTC



CURRENT DESIGN ACTIVITY CAGE CODE 38101
 HONEYWELL - CAMBRIDGE

OUTLINE & INSTALLATION

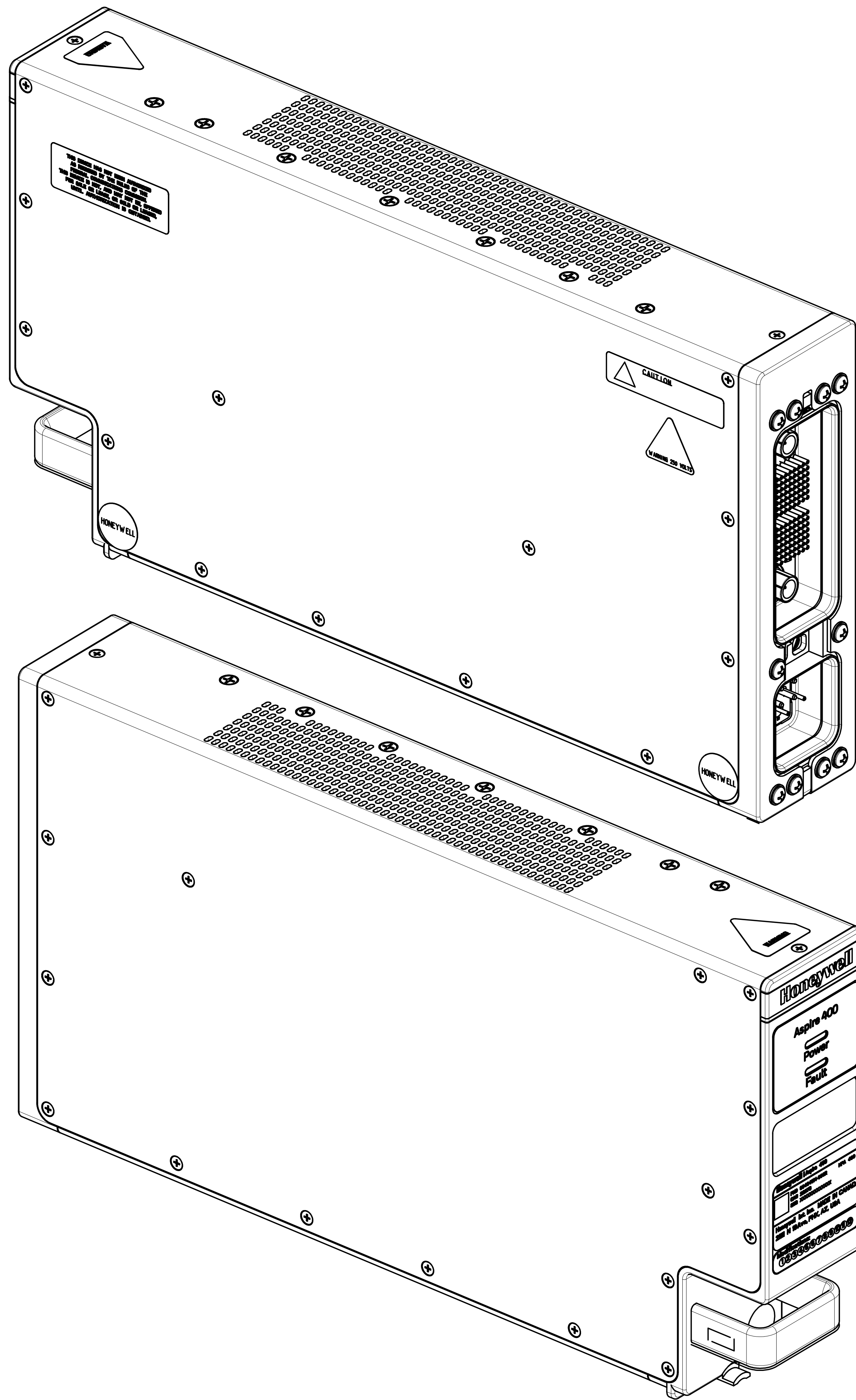
ANGULAR DIMENSIONS	xx°	xx°xx'	UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCHES AND TOLERANCES APPLY AS SHOWN BELOW.	FIRST USED ON	OUTLINE NO
ALL ANGLES	±15°	±5°		NEXT ASSY	90405332
SURFACE ROUGHNESS	MICROINCH	MICRON	INCHES	DRAWN BY	90404514
	63	1.6		CHECKED BY	OUTLINE
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994	UNTOLERANCED DIMENSION	DECIMAL PLACES	UNLESS OTHERWISE SPECIFIED: RADI: XXXX.010 NO INTERNAL CORNER RADI: .003 ALLOWED	DRAWN BY	G. UFFELMAN
	BELOW 6	±.01		CHECKED BY	N. TROJANOWSKI
	6 TO 24	±.03			R. GRANLUND
	OVER 24	±.05			P. DEWAN
THE INFORMATION CONTAINED HEREIN IS PROPRIETARY TO COM DEV LTD AND IS TO BE USED BY THE RECIPIENT SOLELY FOR THE PURPOSE FOR WHICH IT IS SUPPLIED. IT SHALL NOT BE DISCLOSED, IN WHOLE OR IN PART, TO ANY OTHER PARTY WITHOUT COM DEV LTD PRIOR PERMISSION.	UNTOLERANCED DIMENSION	DECIMAL PLACES			J. BRADIC
	BELOW 152.4	±.3			S. MCGINNIS
	152.4 TO 609.6	±.8			AUTHORIZED FOR PRODUCTION
	OVER 609.6	±1.3			M. MAHEU
PROJECTION					

REV	DESCRIPTION (ECN NO)	IMPL BY	APVD BY	DATE
	SEE SHEET 1			
REVISIONS				

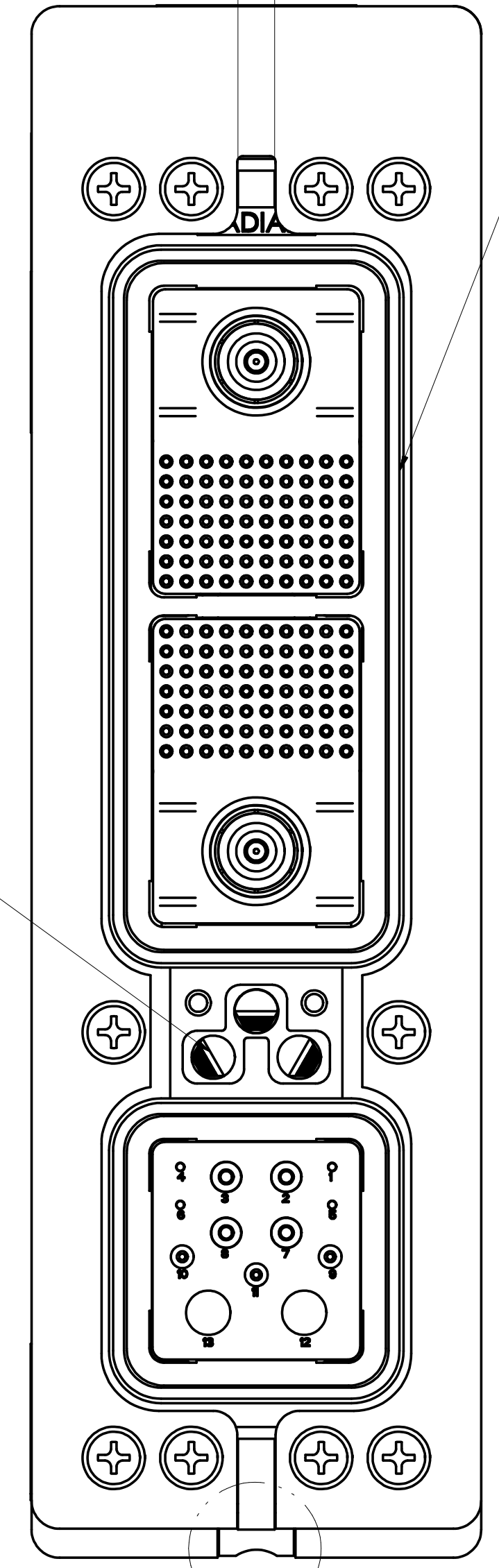
COM DEV 155 SHELDON DRIVE
 CAMBRIDGE, ONTARIO
 CANADA N1R 7H6

OUTLINE & INSTALLATION
ASPIRE 400
HPA

SIZE: FSCM NO: D 38473 DRAWING NO: 90405332 REV: M
 SCALE: 0.750 SHEET 2 OF 3



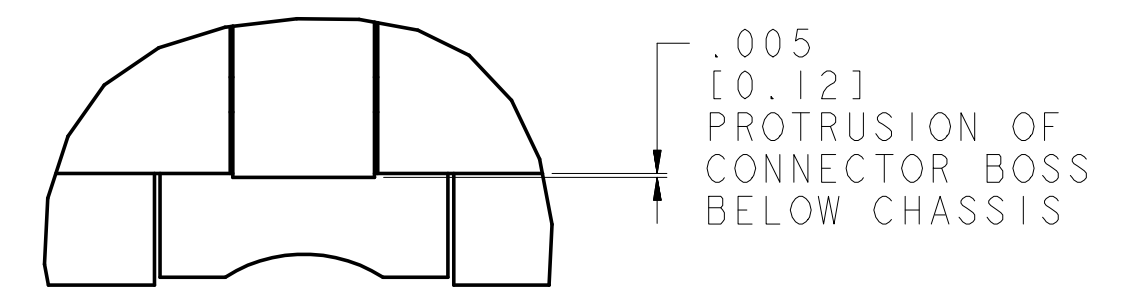
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5 23

ARINC 600 CONNECTOR WITH COAX SMA TERMINATION (2X)
 HON P/N: 50054601 AND 50054681
 (RADIAL P/N: NSXF2R221Y0908 AND 620044)

22
 INDEX CODE 08
 (5, 4, 3)



DETAIL A
 SCALE: 4.000

SEE DETAIL A

CURRENT DESIGN ACTIVITY CAGE CODE 38101
 HONEYWELL - CAMBRIDGE

OUTLINE & INSTALLATION

ANGULAR DIMENSIONS	xx°	xx°xx'	UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCHES AND TOLERANCES APPLY AS SHOWN BELOW.	FIRST USED ON	TCO OR OUTLINE NO
ALL ANGLES	$\pm 15'$	$\pm 5'$		NEXT ASSY	90405332
SURFACE ROUGHNESS	MICROINCH	MICRON	INCHES	DRAWN BY	OUTLINE
	63	1.6		G. UFFELMAN	
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994	UNTOLERANCED DIMENSION	DECIMAL PLACES	MM	CHECKED BY	
		XX	XXX	N. TROJANOWSKI	
	BELOW 6	$\pm .01$	$\pm .005$	R. GRANLUND	
	6 TO 24	$\pm .03$	$\pm .010$	P. DEWAN	
	OVER 24	$\pm .05$	$\pm .020$		
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		X	XX	S. MCGINNIS	
	BELOW 152.4	$\pm .3$	$\pm .13$		
	152.4 TO 609.6	$\pm .8$	$\pm .25$		
PROJECTION	OVER 609.6	± 1.3	$\pm .51$	M. MAHEU	

REV	DESCRIPTION (ECN NO)	IMPL BY	APVD BY	DATE
	SEE SHEET 1			

REVISIONS			
155 SHELDON DRIVE CAMBRIDGE, ONTARIO CANADA N1R 7H6			
OUTLINE & INSTALLATION ASPIRE 400 HPA			
SIZE	FSCM NO	DRAWING NO	REV
D	38473	90405332	M
SCALE	1.000		SHEET 3 OF 3