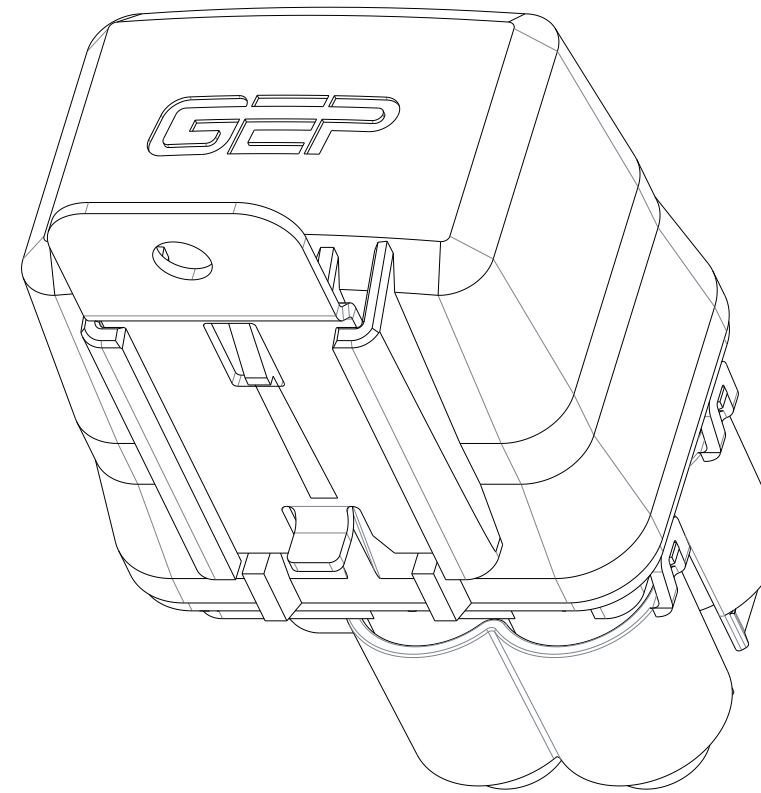


REV	REVISION DETAILS	ECO	DATE	BY	ABY
0	INITIAL RELEASE	NP-003279	02FEB2021	JWK	JML
1	CORRECTED HOUSING AND SEAL PART NUMBER IN EXAMPLE ASSEMBLY BOM	NP-003299	08FEB2021	JWK	JML
2	REMOVED DIODE KEY SHEET 4 - NOT SUPPORTED ON THIS PRODUCT	NP-003322	10FEB2021	JJW	JML
3	UPDATED GEOMETRY OF HOUSING	NP-003953	21SEP2021	JWK	JJW
4	UPDATED TO LATEST DRAWING STANDARDS. UPDATED PART NUMBER AND DESCRIPTION.	NP-006086	14NOV2024	JWK	JML
5	SEAL COLOR UPDATED TO BLUE. SEPARATED ACCESSORIES INTO ADDITIONAL SHEET. ADDED CAVITY PLUG WITH SEAL, VENTED COVER. UPDATED SHEET 5. UPDATED NOTES, TABLES.	NP-007412	01MAY2026	JWK	JML



ISO VIEW
FOR REF ONLY

CONFIDENTIAL

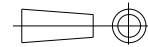
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CRITICAL DIMENSIONS ON FEATURES TO BE CHECKED DURING ANY SET-UP ADJUSTMENTS, TOOL CHANGES, OR ANNUAL MAINTENANCE ON TOOLING.

DIMENSIONS OR FEATURES TO BE CHECKED FROM RUN-TO-RUN

TOLERANCES UNLESS OTHERWISE SPECIFIED

THIRD ANGLE PROJECTION



METRIC TOL

ENGLISH TOL

ANGULAR TOL = $\pm 2^\circ$
FRACTION TOL = $\pm 1/64$ IN

1 PL DEC. = $\pm .25$
2 PL DEC. = $\pm .13$

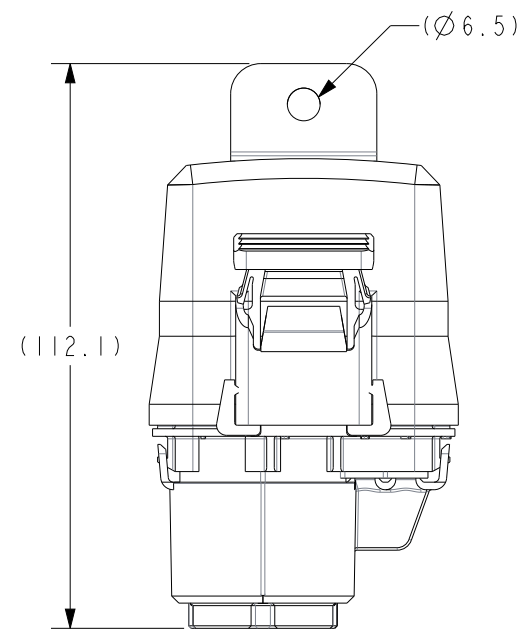
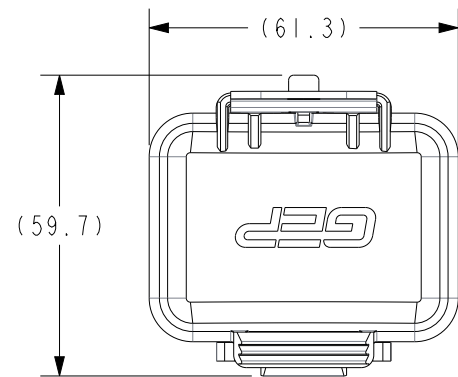
2 PL DEC. = $\pm .01$
3 PL DEC. = $\pm .005$

DIMENSIONS INSIDE PARENTHESES OR CONTAINING "REF" ARE FOR REFERENCE ONLY.

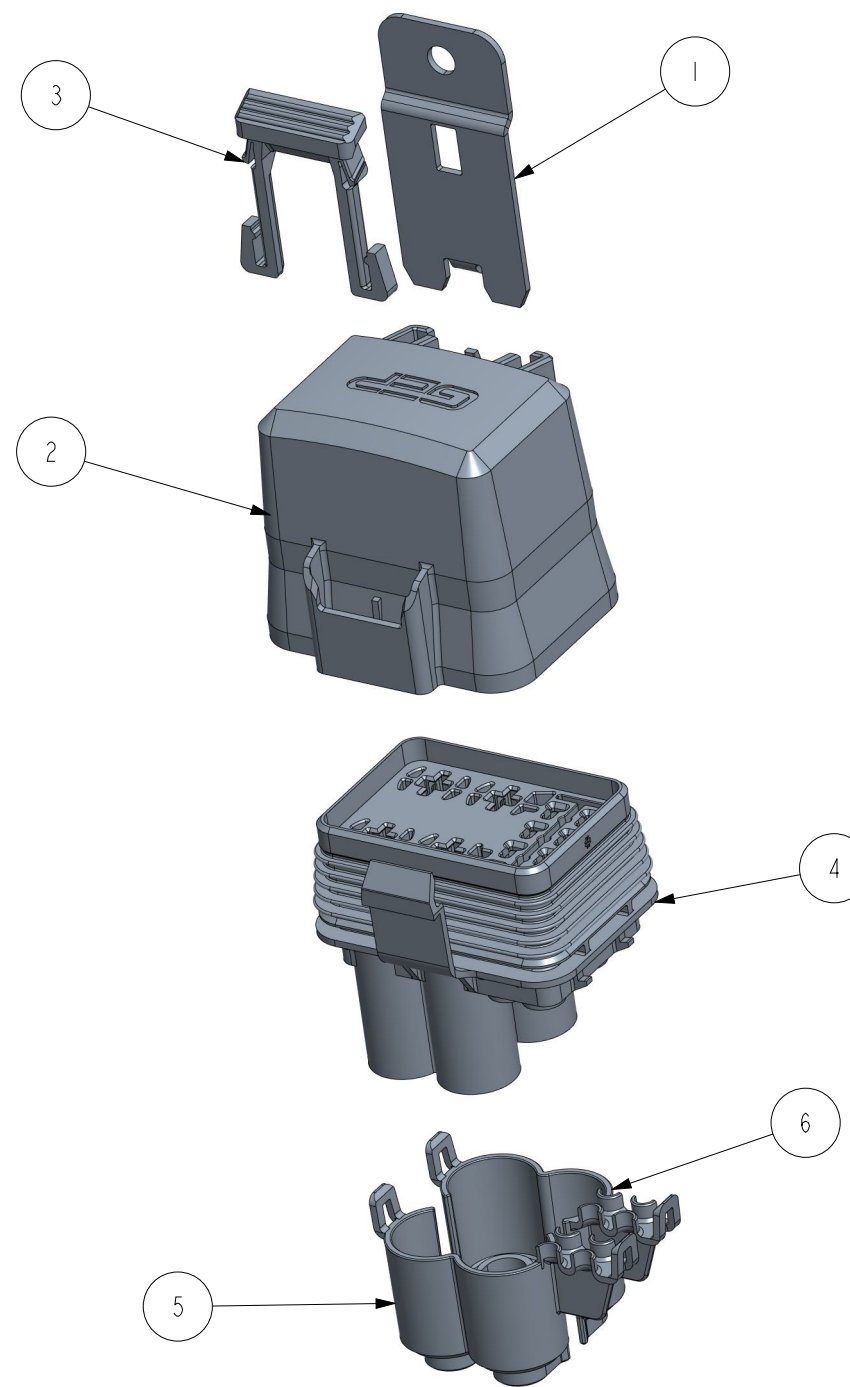
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		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:		FRH - MAXI AND MINI - SERIES (SALES)		
DESCRIPTION:		FRH - MAXI AND MINI - SERIES		
CUSTOMER:		STANDARD		
METRIC (MM)	REV	SHEET	SCALE	SIZE
	5	1 OF 9	1.25:1	B



EXAMPLE CONFIGURATION WITH DIMENSIONAL INFO



EXAMPLE CONFIGURATION EXPLODE VIEW

NOTES:

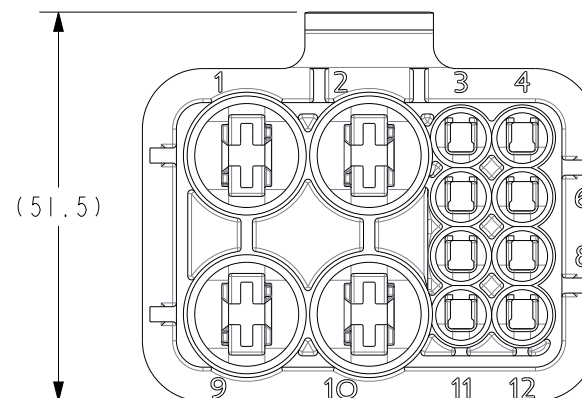
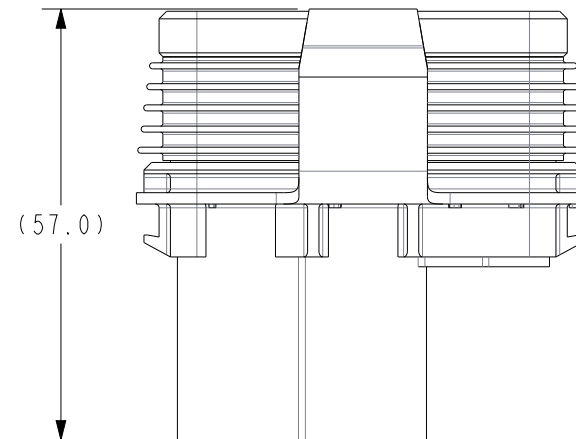
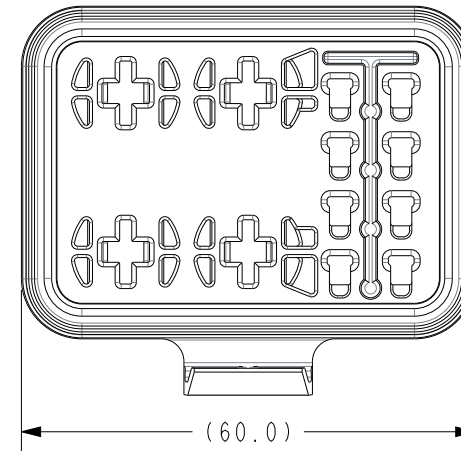
1. HOUSING, COVER & CPA MATERIAL: UNFILLED PBT
2. TPA & KEY MATERIAL: NYLON
3. COLORS: HOUSING & COVER - BLACK
SEAL - BLUE (OR RED IF MANUFACTURED BEFORE AUGUST 2026)
TPA, CPA - BLUE
4. BRACKET MATERIAL: ZINC PLATED STEEL OR STAINLESS STEEL
5. DESIGNED TO USE DELPHI 280 METRI-PACK TERMINALS AND SEALS, LEAR MAK8 TERMINALS AND GEP SEALS, LITTELFUSE MINI & MAXI FUSES (SEE TABLES A & D)
6. MOUNTING HOLE TO ANTI-ROTATION TAB DIM
7. RoHS AND REACH COMPLIANT

EXAMPLE CONFIGURATION BOM			
ITEM	DESCRIPTION	PART NO.	QTY
1	BRACKET - PDM - FRH - FLAT WITH ANTI-ROTATION - ZINC STEEL	FRH-A12-MB-A1	1
2	COVER - PDM, FRH 24 POS	FRH-A24-C	1
3	CPA - PDM - FRH	FRH-A-CPA	1
4	HOUSING AND SEAL - PDM, FRH, MAXI AND MINI	SC42-2014A-A001	1
5	TPA - PDM, FRH, MAXI AND MINI, A	SC38-2013A-B003	1
6	TPA - PDM, FRH, MAXI AND MINI, B	SC38-2013B-B003	1

		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:		FRH - MAXI AND MINI - SERIES (SALES)		
DESCRIPTION:		FRH - MAXI AND MINI - SERIES		
CUSTOMER:		STANDARD		
METRIC (MM)	REV	SHEET	SCALE	SIZE
	5	2 OF 9	1:1.5	B

HOUSING W/SEAL OPTIONS

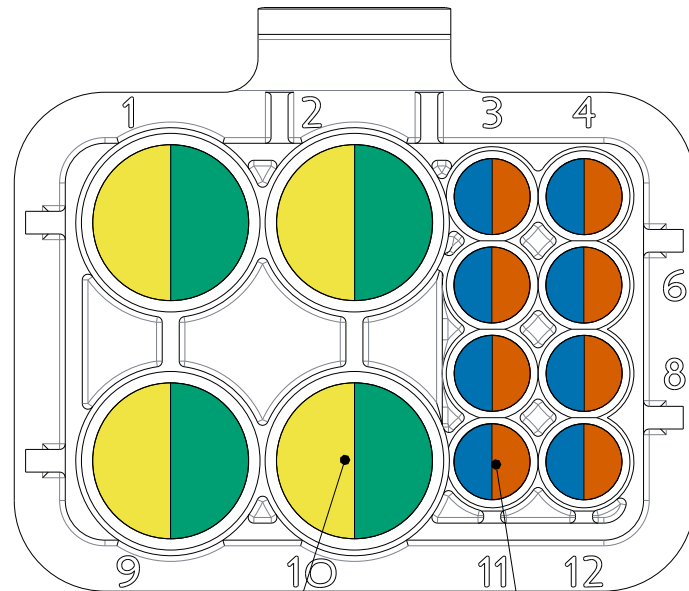
SC42-2014A-A001
HOUSING AND SEAL - PDM, FRH, MAXI AND MINI



GEP POWER PRODUCTS		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:	FRH - MAXI AND MINI - SERIES (SALES)			
DESCRIPTION:	FRH - MAXI AND MINI - SERIES			
CUSTOMER:	STANDARD			
METRIC (MM)	REV 5	SHEET 3 OF 9	SCALE 1:1	SIZE B

HOUSING TERMINALS AND SEALS

SC42-2014A-A001
HOUSING AND SEAL - PDM, FRH, MAXI AND MINI



LEAR MAK8 CAVITIES
SEE TABLE D FOR TERMINALS
AND CABLE SEALS

280 CAVITIES
SEE TABLE A FOR TERMINALS
AND CABLE SEALS

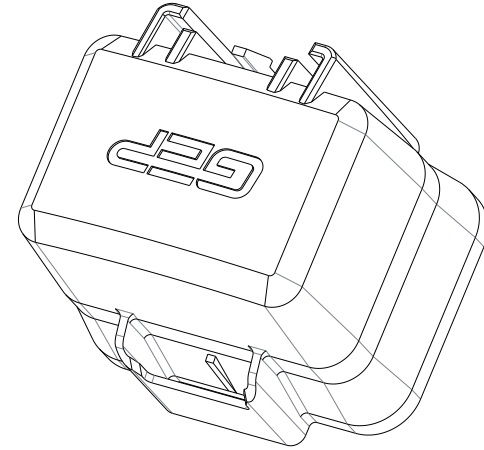
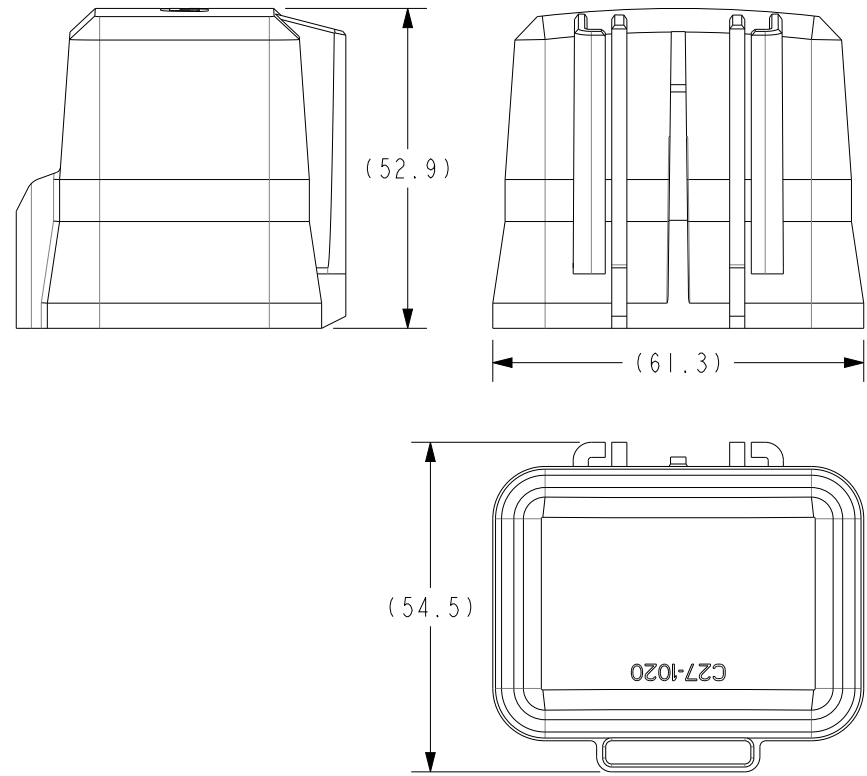
Table D			REV 1
LEAR MAK8 PLUS TERMINALS (FOR REF. ONLY)			
PART NUMBER	RANGE (mm ²)	PLATING	VARIATION
28224 306 710	2.5-4.0	SILVER	1 - LONG SEAL
28469 306 189	2.5-4.0	SILVER/TIN	3 - SHORT SEAL
28225 306 710	6.0-10.0	SILVER	1 - LONG SEAL
28459 306 189	6.0-10.0	SILVER/TIN	3 - SHORT SEAL
28243 306 710	10.0-16.0	SILVER	1 - LONG SEAL
GEP CABLE SEALS (VARIATION 1 - LONG)			
PART NUMBER	CABLE DIA.	MATERIAL	COLOR
PDM-TWS-L1	2.7-3.0	SILICONE	GREEN
PDM-TWS-L2	3.4-3.8	SILICONE	PURPLE
PDM-TWS-L3	4.0-4.5	SILICONE	ORANGE
PDM-TWS-L4	4.6-5.3	SILICONE	LIGHT BLUE
PDM-TWS-L5	5.8-6.6	SILICONE	GRAY
PDM-TWS-L6	6.5-7.8	SILICONE	RED
GEP CABLE SEALS (VARIATION 3 - SHORT)			
PDM-TWS-S1	2.7-3.0	SILICONE	GREEN
PDM-TWS-S2	3.4-3.8	SILICONE	PURPLE
PDM-TWS-S3	4.0-4.5	SILICONE	ORANGE
PDM-TWS-S4	4.6-5.3	SILICONE	LIGHT BLUE
PDM-TWS-S5	5.8-6.6	SILICONE	GRAY
GEP CABLE SEAL PLUG			
PDM-TWS-P	N.A.	SILICONE	YELLOW
LEAR MAK8 PLUS TERMINAL REMOVAL TOOL (FOR REF. ONLY)			
PART # 50000017609 BY Karl Püplichuisen GmbH & Co.			

Table A			REV 2
APTIV (DELPHI) 280 METRI-PACK TERMINALS			
PART NUMBER	CABLE RANGE (mm ²)	MATERIAL	PLATING
12077413	3	TIN BRASS	TIN
12129493	2.0-3.0	TIN BRASS	TIN
12077411	0.8-1.0	TIN BRASS	TIN
12084201	0.35-0.50	TIN BRASS	TIN
12176387	5	BERYLLIUM COPPER	SILVER/NICKEL
12176388	2.0-3.0	BERYLLIUM COPPER	SILVER/NICKEL
12176389	0.8-1.0	BERYLLIUM COPPER	SILVER/NICKEL
APTIV (DELPHI) 280 METRI-PACK CABLE SEALS (FOR REF. ONLY)			
PART NUMBER	CABLE DIAMETER	MATERIAL	COLOR
15324981	3.45-4.3	SILICONE	BLUE
15324980	2.81-3.49	SILICONE	LT. GRAY
15324982	2.03-2.85	SILICONE	GREEN
15324984	2.03-2.42	SILICONE	TAN
15324985	1.6-2.15	SILICONE	PURPLE
15324983	1.29-1.70	SILICONE	DK. RED
12010300	PLUG	SILICONE	GREEN
DELPHI 280 METRI-PACK TERMINAL REMOVAL TOOL (FOR REF. ONLY)			
PART # 12094430			

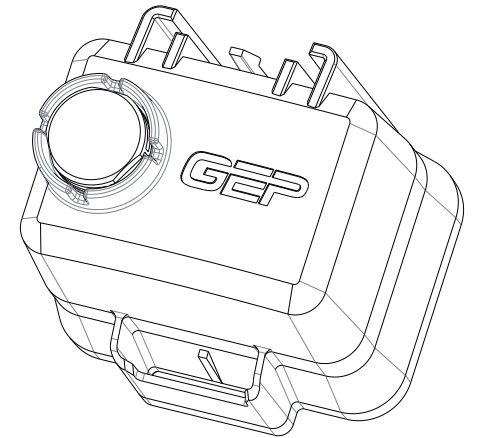
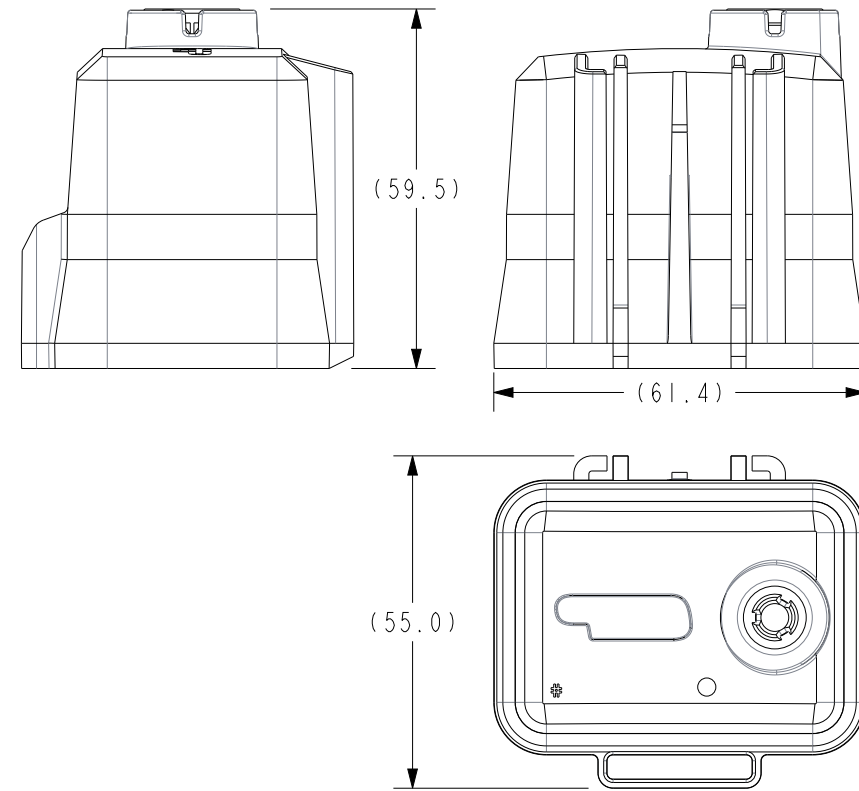
GEP POWER PRODUCTS		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:	FRH - MAXI AND MINI - SERIES (SALES)			
DESCRIPTION:	FRH - MAXI AND MINI - SERIES			
CUSTOMER:	STANDARD			
METRIC (MM)	REV 5	SHEET 4 OF 9	SCALE 1.25:1	SIZE B

COVER OPTIONS

FRH-A24-C
COVER - PDM, FRH 24 POS



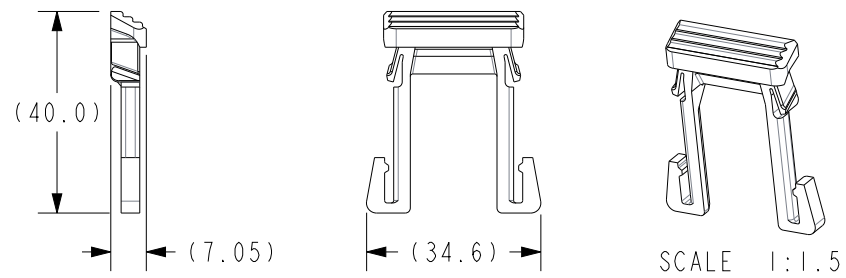
SC42-2028A-A001
COVER WITH VENT - FRH - A24



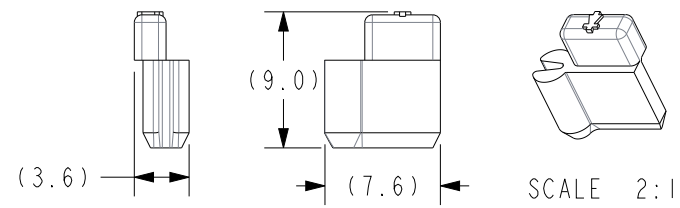
		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:		FRH - MAXI AND MINI - SERIES (SALES)		
DESCRIPTION:		FRH - MAXI AND MINI - SERIES		
CUSTOMER:		STANDARD		
METRIC (MM)	REV	SHEET	SCALE	SIZE
	5	5 OF 9	1.25:1	B

FRH - ACCESSORY OPTIONS

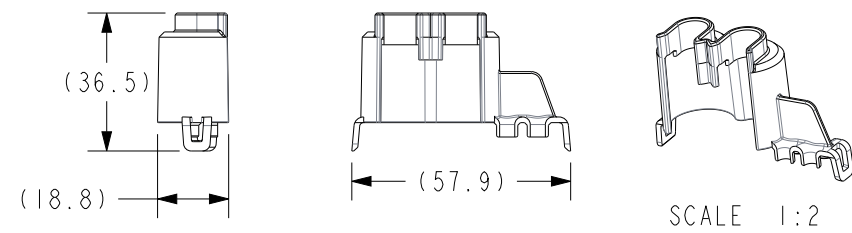
FRH-A-CPA
CPA - PDM, FRH



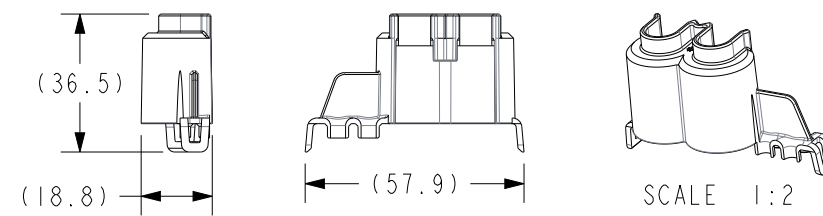
PDM-TK
DIODE KEY



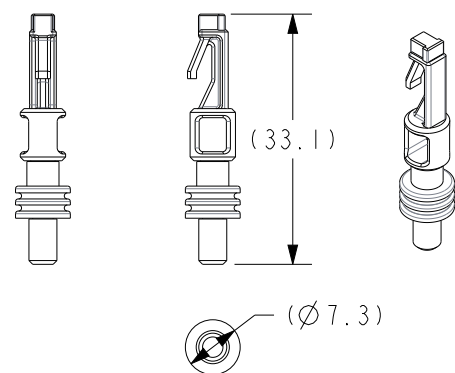
SC38-2013A-B003
TPA - PDM, FRH, MAXI AND MINI, A



SC38-2013B-B003
TPA - PDM, FRH, MAXI AND MINI, B



SC55-2000A-A001
PLUG AND SEAL - PDM -
CAVITY PLUG - METRIPACK 280

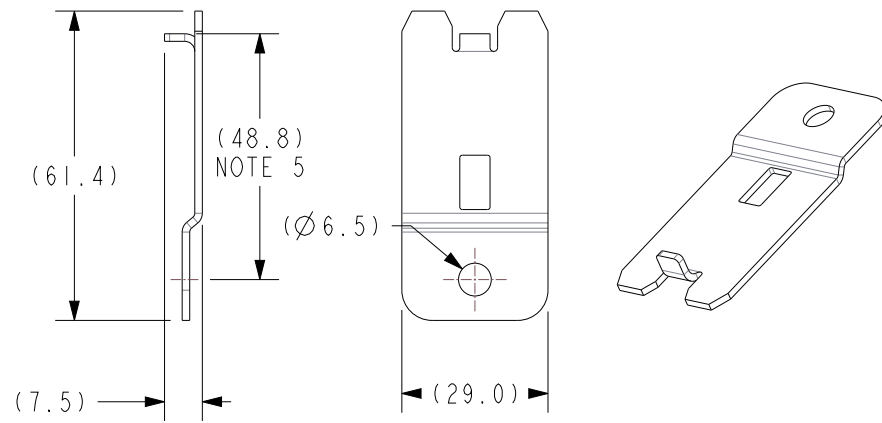


GEP POWER PRODUCTS		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:	FRH - MAXI AND MINI - SERIES (SALES)			
DESCRIPTION:	FRH - MAXI AND MINI - SERIES			
CUSTOMER:	STANDARD			
METRIC (MM)	REV 5	SHEET 6 OF 9	SCALE 1.25:1	SIZE B

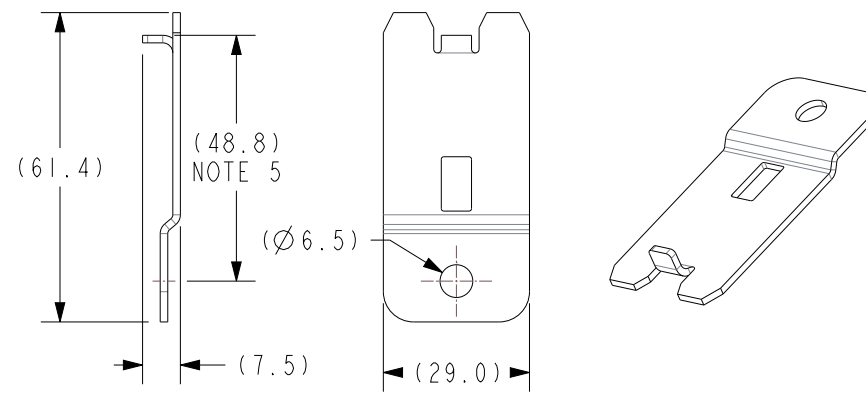
FRH - MOUNTING OPTIONS

FOR NON-STANDARD MOUNTING OPTIONS EMAIL
GEPENGINEERING@GEPPOWERPRODUCTS.COM TO REVIEW

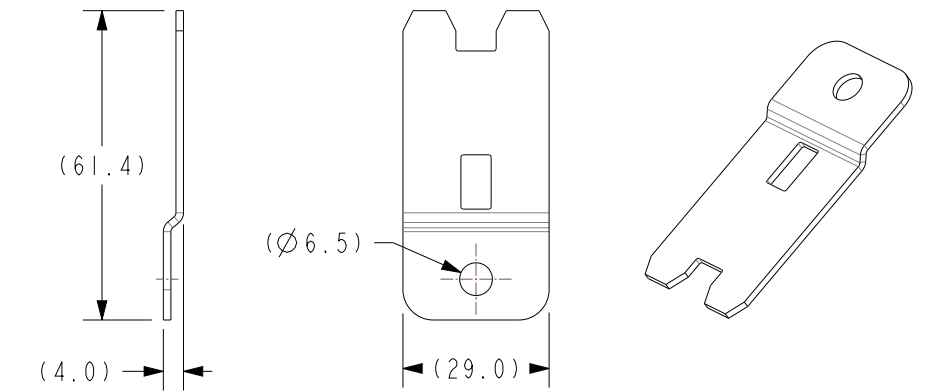
FRH-A12-MB-A1
BRACKET - PDM,FRH,FLAT WITH ANTI-ROTATION, ZINC STEEL



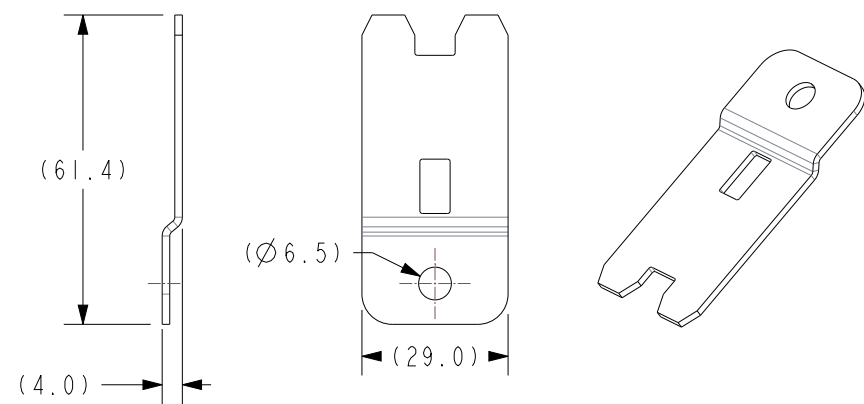
FRH-A12-MB-A2
BRACKET - PDM, FRH, FLAT WITH ANTI-ROTATION, STAINLESS 304



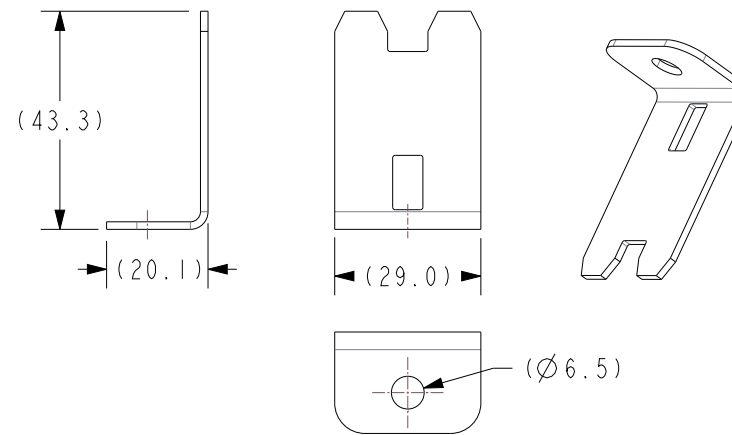
FRH-A12-MB-B1
BRACKET - PDM, FRH, FLAT WITHOUT ANTI-ROTATION, ZINC STEEL



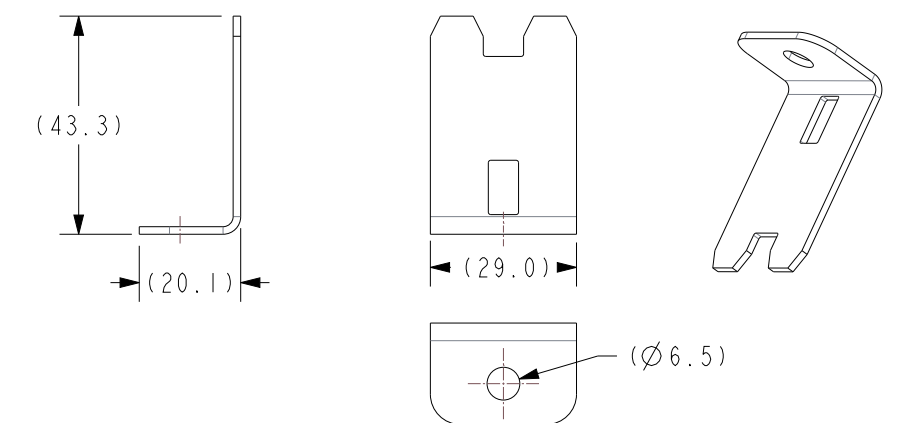
FRH-A12-MB-B2
BRACKET - PDM, FRH, FLAT WITHOUT ANTI-ROTATION, STAINLESS 304



FRH-A12-MB-C1
BRACKET - PDM, FRH, 90° BENT, ZINC STEEL



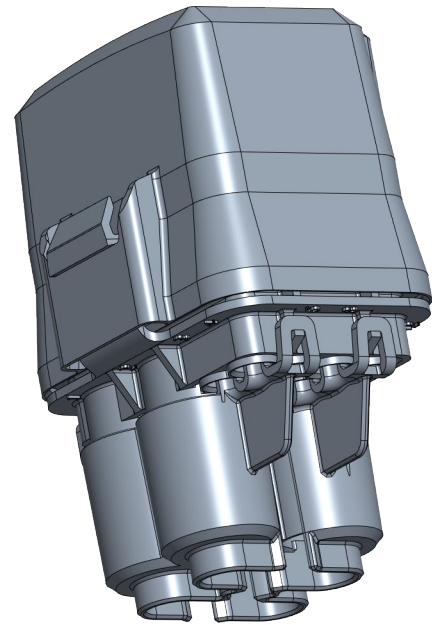
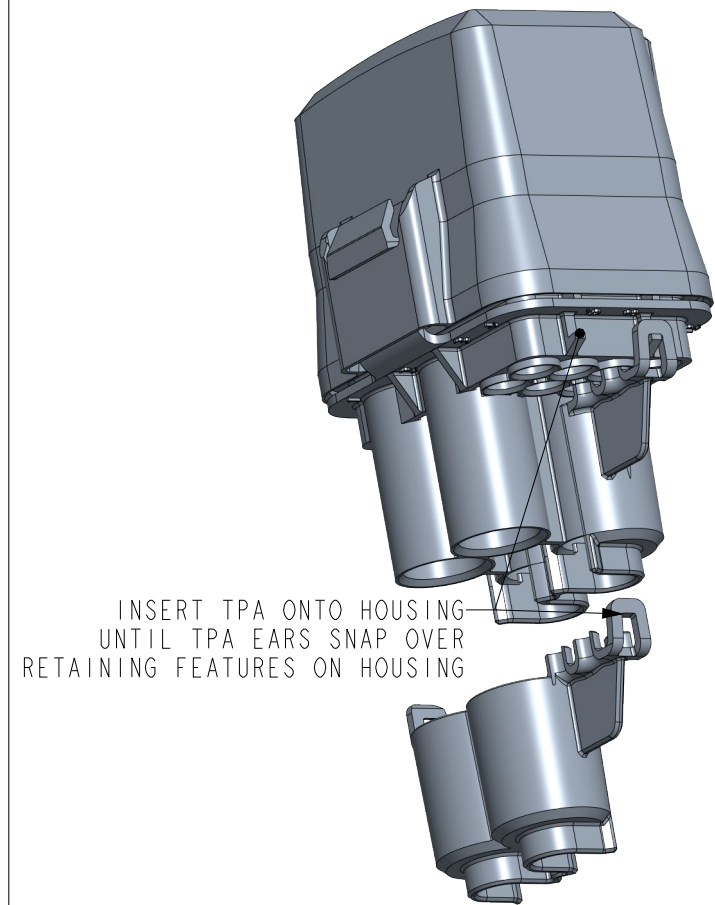
FRH-A12-MB-C2
BRACKET - PDM, FRH, 90° BENT, STAINLESS 304



GEP POWER PRODUCTS		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:	FRH - MAXI AND MINI - SERIES (SALES)			
DESCRIPTION:	FRH - MAXI AND MINI - SERIES			
CUSTOMER:	STANDARD			
METRIC (MM)	REV 5	SHEET 7 OF 9	SCALE 1:1	SIZE B

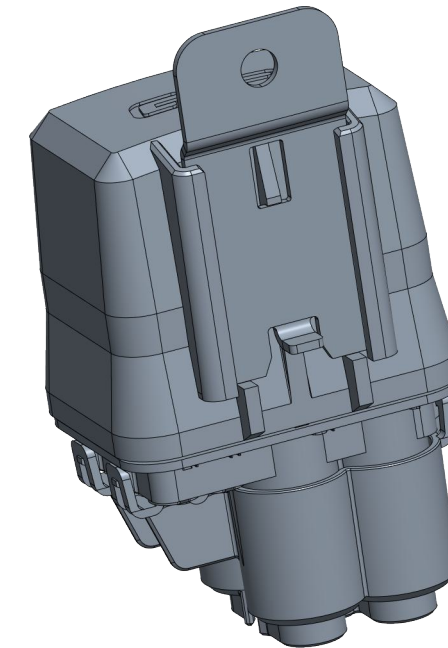
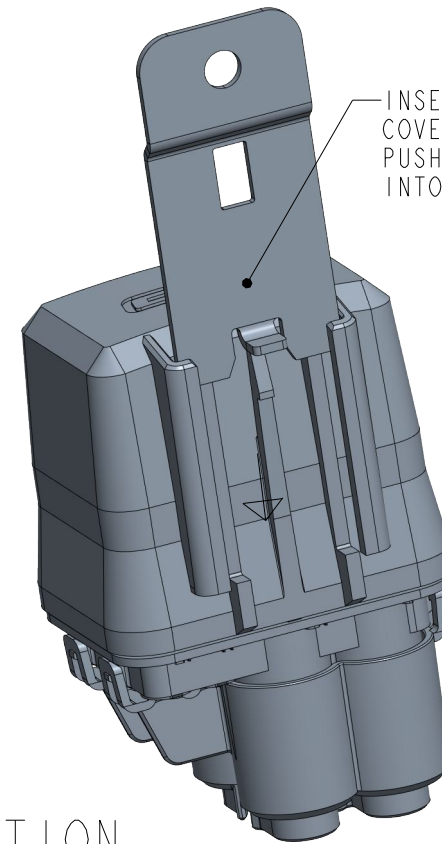
ACCESSORY ASSEMBLY INSTRUCTIONS

TPA INSTALLATION



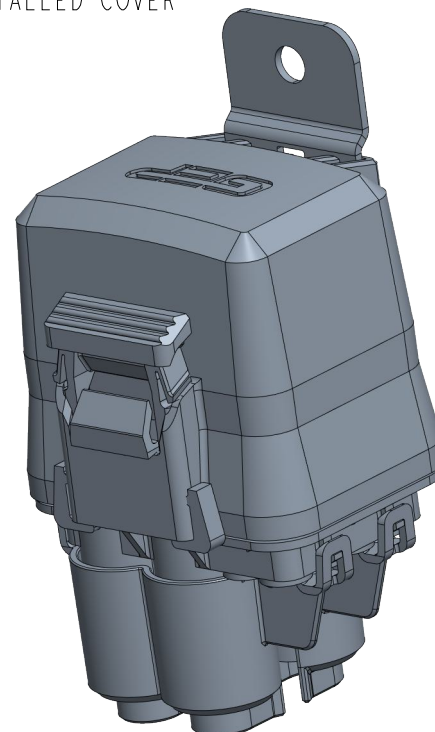
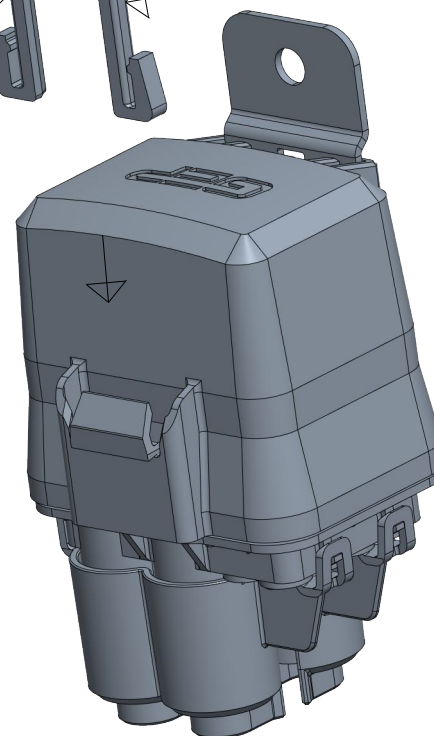
INSTALLED TPAS

MOUNTING BRACKET INSTALLATION



INSTALLED MOUNTING BRACKET

CPA INSTALLATION

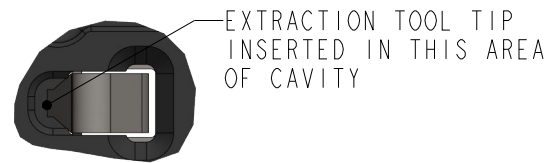


INSTALLED CPA

GEP POWER PRODUCTS		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:	FRH - MAXI AND MINI - SERIES (SALES)			
DESCRIPTION:	FRH - MAXI AND MINI - SERIES			
CUSTOMER:	STANDARD			
METRIC (MM)	REV 5	SHEET 8 OF 9	SCALE 1:1.25	SIZE B

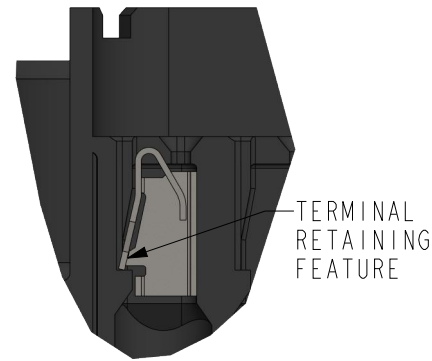
DEPINNING INSTRUCTIONS

280 TERMINAL DEPINNING



TOP VIEW
(SCALE 3:1)

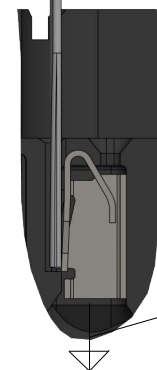
EXTRACTION TOOL TIP
INSERTED IN THIS AREA
OF CAVITY



INSTALLED 280 TERMINAL
IN PDM-R4A01
SIDE VIEW
(SCALE 2:1)

TERMINAL
RETAINING
FEATURE

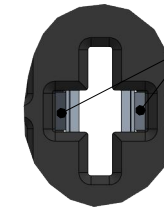
280/630 TERMINAL
DEPINNING TOOL



EXTRACTION TOOL INSERTED
AND TERMINAL RELEASED
SIDE VIEW
(SCALE 2:1)

REMOVE TERMINAL
IN THIS DIRECTION

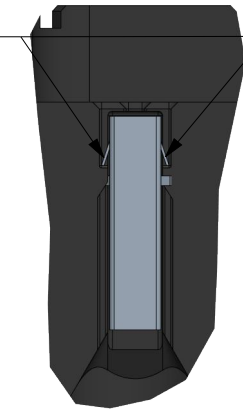
LEAR MAK8 TERMINAL DEPINNING



TOP VIEW
(SCALE 2:1)

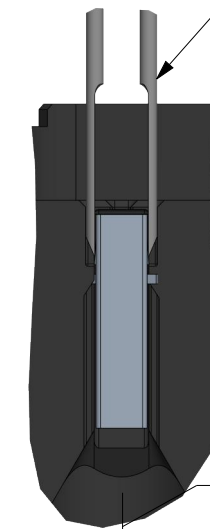
EXTRACTION TOOL TIPS
INSERTED IN THESE
AREAS OF CAVITY

TERMINAL
RETAINING
FEATURES



INSTALLED LEAR MAK8
TERMINAL IN PDM-R4D01
SIDE VIEW
(SCALE 1.5:1)

LEAR MAK8 TERMINAL
DEPINNING TOOL



EXTRACTION TOOL INSERTED
AND TERMINAL RELEASED
SIDE VIEW
(SCALE 1.5:1)

REMOVE TERMINAL
IN THIS DIRECTION

		16830 Pheasant Drive Brookfield, WI 53005		
PART NO:	FRH - MAXI AND MINI - SERIES (SALES)			
DESCRIPTION:	FRH - MAXI AND MINI - SERIES			
CUSTOMER:	STANDARD			
METRIC (MM)	REV 5	SHEET 9 OF 9	SCALE 1:1	SIZE B