



#### **About Us**

Deltron Enclosures is a leading UK manufacturer of aluminium and plastic IP rated enclosures for a range of industries and applications worldwide. Our customer portfolio is broad and consists of small and large original equipment manufacturers, wholesalers, catalogue distributors and multi-national blue-chip companies.

Our product portfolio can offer a variety of enclosure options from general purpose IP54 up to our IP68 heavy duty range that offers a high level of corrosion and impact resistance.

- IP54 IP68
- Aluminium
- EMI/RFI Protected

- Heavy Duty
- Corrosion Resistant
- ABS and Polycarbonate

The company was established in 1946 and operates from a 40,000 sq ft. manufacturing facility in Scunthorpe, North Lincolnshire, UK. Deltron Enclosures is one of four brands from DEM Manufacturing; a division of Alpha 3 Manufacturing Ltd, which also comprises three other manufacturing businesses; CTL Manufacturing, CCS Electronics and Tekdata Interconnections Ltd.

For more information, visit www.dem-uk.com/deltron-enclosures where you can download technical product information and 3D CAD models or use our product specifier tool to find suitable products for your project.







### **Key Markets**

We work with a large number of customers from a broad scope of industries. During our 70+ years, we have developed significant knowledge and understanding of the specific requirements and conformities within wide and varied market sectors.



- Push Button Controls
- Radio Frequency Housing
- Radio Transmitters
- Industrial Control Box

- Security Camera Housing
- Pressure Sensors
- Lighting Control Units
- Satellite Navigation Systems

- Passenger Information Displays
- Advertising Display Boards
- Hand Held Controls
- Medical Monitors



		Range				General Pu	ırpose Ra	inges				Heav	y Duty Ra	nges	Plastic	Range
0 1		Series	IP54 (-1mm H)*	IP54 with Flanges	IP66	IP66 with Flanges	IP68	IP68 with Flanges	IP68 EMI/RFI	IP68 EMI/RFI with Flanges	Low Cost	IP66	IP68	Corrosion & Impact Resistant	ABS	Polycarbonate
Selec	ction	Plain Aluminium Series	459	455	460	456	480	483	480	483	486	486	486	489		
<b>Table</b>		Powder Coat Series	461	457	453	463	481	484	481	484	487	487	487	490	478	477
Table	,	Nylon Coat Series	462	458	454	464	482	485	482	485	488	488	488			
Box Code	L (Inc Flg)	Sizes by Length L x W x H (mm)	Page 10	Page 11	Page 12	Page 13	Page 14	Page 15	Page 16	Page 17	Page 32	Page 33	Page 34	Page 42	Page 50	Page 50
040503		45 x 50 x 30												•		
050503		52 x 50 x 35													•	•
Q		60 x 55 x 31	•		•		•		•							
060503		64 x 58 x 34												•		
060503		65 x 50 x 35													•	•
070805		75 x 80 x 57												•		
0140		76 x 51 x 28													•	
P		80 x 55 x 26	•		•		•		•							
080805		82 x 80 x 55													•	•
80808		82 x 80 x 85													•	•
Α	114	89 x 35 x 31	•	•	•	•	•	•	•	•						
101008		100 x 100 x 81												•		
0160		101 x 77 x 40													•	
В	140	114 x 64 x 31	•	•	•	•	•	•	•	•						
С	140	114 x 89 x 56	•	•	•	•	•	•	•	•						
D	140	114 x 65 x 56	•	•	•	•	•	•	•	•						
120805		120 x 80 x 55													•	•
120808		120 x 80 x 85													•	•
M	150	120 x 100 x 36	•	•	•	•	•	•	•	•						
0020		122 x 62 x 31													•	
121205		122 x 120 x 55													•	•
121208		122 x 120 x 81												•		
121209		122 x 120 x 91												•		
120805		125 x 80 x 57												•		
121208		125 x 125 x 80									•	•	•			
121209		125 x 125 x 90									•	•	•			
130806		130 x 80 x 60									•	•	•			
K	170	140 x 102 x 77	•	•	•	•	•	•	•	•						
141409		140 x 140 x 91												•		
160805		160 x 80 x 55													•	•
160808		160 x 80 x 85													•	•
161209		160 x 120 x 90													•	•
161609		160 x 160 x 90									•	•	•			
L		165 x 127 x 77	•		•		•		•							
E	202	172 x 121 x 56	•	•	•	•	•	•	•	•						
F	202	172 x 121 x 107	•	•	•	•	•	•	•	•						
170805		175 x 80 x 57												•		
201207		200 x 120 x 75													•	•

<sup>\*</sup> IP54 Range - Note height of enclosure is reduced by 1mm due to absence of seal.

Custom sizes, machining and assembly services are available across our ranges. See page 8 for more details.

Select						ocheral i c	urpose Ra	liges				Heav	y Duty Ra	liges	- Flastic	Range
Select		Series	IP54 (-1mm H)*	IP54 with Flanges	IP66	IP66 with Flanges	IP68	IP68 with Flanges	IP68 EMI/RFI	IP68 EMI/RFI with Flanges	Low Cost	IP66	IP68	Corrosion & Impact Resistant	ABS	Polycarbonate
	tion	Plain Aluminium Series	459	455	460	456	480	483	480	483	486	486	486	489		
		Powder Coat Series	461	457	453	463	481	484	481	484	487	487	487	490	478	477
Table		Nylon Coat Series	462	458	454	464	482	485	482	485	488	488	488			
Box Code L	L (Inc Flg)	Sizes by Length L x W x H (mm)	Page 10	Page 11	Page 12	Page 13	Page 14	Page 15	Page 16	Page 17	Page 32	Page 33	Page 34	Page 42	Page 50	Page 50
201209		200 x 120 x 90													•	•
201507		200 x 150 x 75													•	•
221208		220 x 120 x 80									•	•	•			
221209		220 x 120 x 90									•	•	•			
G	252	222 x 146 x 56	•	•	•	•	•	•	•	•						
Н		222 x 146 x 107	•		•		•		•							
241210		240 x 120 x 100													•	•
241609		240 x 160 x 90													•	•
241612		240 x 160 x 120													•	•
250805		250 x 80 x 57												•		
251609		250 x 160 x 90													•	•
251612		250 x 160 x 120													•	•
N		250 x 250 x 100	•		•		•		•							
261609		260 x 160 x 90									•	•	•			
261612		260 x 160 x 120									•	•	•			
J		275 x 175 x 66	•		•		•		•							
302308		300 x 230 x 85													•	•
302311		300 x 230 x 110													•	•
362015		360 x 200 x 150													•	•
					* IP54 Ra	nge - Note h	neight of en	closure is re	duced by 1	mm due to absei	nce of seal.					

If the enclosure size you require is not listed, please get in touch as we may still be able to help.

Tel: +44 (0)1724 273206 | Email: sales@dem-uk.com



### Contents

General Purpose Ranges	
IP54 Enclosures	Page 10
IP54 Flanged Enclosures	Page 11
IP66 Enclosures	Page 12
IP66 Flanged Enclosures	Page 13
IP68 Enclosures	Page 14
IP68 Flanged Enclosures	Page 15
IP68 EMI/RFI Enclosures	Page 16
IP68 EMI/RFI Flanged Enclosures	Page 17
General Purpose Enclosures - Material Specification	Page 18
General Purpose Enclosures - Seal Specification	Page 19
General Purpose Enclosure Dimensions	Pages 20-31

Customisation and Additional Information	
Customisation Services	Page 8
IP Ratings Guide	Page 66
Stockist List	Page 67



### **Contents**

Heavy Duty Ranges	
Heavy Duty Low Cost Enclosures Page	ge 32
IP66 Heavy Duty Enclosures Page	ge 33
IP68 Heavy Duty Enclosures Pag	ge 34
Heavy Duty Enclosures - Material Specification Page	ge 35
IP66 and IP68 Heavy Duty Enclosures - Seal Specification Page	ge 36
Heavy Duty Enclosure Accessories Page	ge 37
Heavy Duty Enclosure Dimensions Pages 3	38-41
IP66 and IP68 Corrosion and Impact Resistant Enclosures Pages 42	& 43
Corrosion and Impact Resistant Enclosures - Material Specification Page	ge 44
Corrosion and Impact Resistant Enclosure Dimensions Pages 4	15-49





# Plastic Ranges IP66 Polycarbonate and ABS Enclosures

IP66 Polycarbonate and ABS EnclosuresPage 50Polycarbonate and ABS Enclosures - Material SpecificationPages 51 & 52Polycarbonate and ABS Enclosure DimensionsPages 53-63General Purpose ABS EnclosuresPage 64General Purpose ABS Enclosure DimensionsPage 65



#### Customisation

Utilising our in-house machining capabilities, our ranges can be machined, finished and assembled to your specification.

#### **Benefits of customisation with Deltron Enclosures**

- Take advantage of low MOQs or high volume production runs.
- Reduced lead times, reducing your time to market.
- Competitive pricing which helps your budget go further.
- Our engineering team can help you to determine the appropriate enclosure solution.
- The enclosures will be ready for immediate installation once on site.





#### **Machining**

Drilling, tapping, milling, louvres, PEMs, insertion of windows, handles or slots and more, to prepare the enclosure for the assembly stage.

#### **Coatings and Chemical Treatments**

Enhance the protection of the enclosure by adding a coating or chemical treatment. We offer a textured powder coating or smooth nylon coating as standard to protect from corrosion, UV light and oils, but other treatments are available on request.

#### **Painting**

Select an attention grabbing red for health and safety purposes, or choose a lighter colour for an aesthetically pleasing enclosure that blends into the background. Just provide the Pantone/RAL reference for a custom colour.

#### **Printing**

8

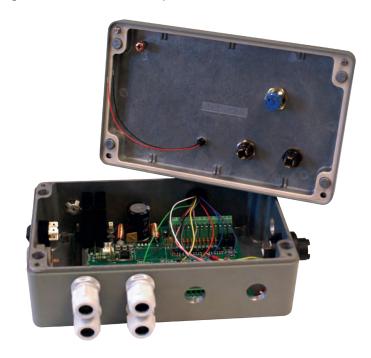
Incorporate your logo or a specification/product code with our printing options of silk screening and engraving.

#### **Box Build**

Whether your requirement is to control and automate a CNC machine or install a control system for railways, Deltron Enclosures can offer a complete enclosure assembly service to reduce costs and save time.

Available for any box or application, your enclosures can be populated with screens, cable glands, PCBs, keypads and more. Utilising our group purchasing power, we can source and procure high quality components at low prices in preparation for the build, whether high, medium or low volume. We can also supply a completely tested box to meet the IEC 60529:2001 standard using our in-house laboratory.

- You benefit, whether the project is high, medium or low volume.
- Save time without the hassle of managing a long supply chain.
- First class technical and drawing support from our experienced engineers.
- The enclosures will be ready for immediate installation once on site.
- As part of the Alpha 3 Manufacturing Group, we can also manufacture cable assemblies and connectors.
- Switches Screens
- Connectors Keypads
- EMC Filters Cable Assemblies
- Cable Glands Terminations



#### How to obtain a quote

3D CAD models can be downloaded from our website for integration into your software, allowing you to modify the model to show your machining requirements. Email your model to our sales team at sales@dem-uk.com who will then respond with a quotation. Alternatively, a hand drawn specification with a list of requirements would also be adequate.

### **IP54 General Purpose Enclosures**



Ideal for light duty environments

With an IP54 rating, this versatile range offers light protection against dust and low pressure water spray. Fifteen sizes are available which come complete with screws and selected sizes include PCB guides. This range is suited to applications in low risk environments where only a minor amount of moisture is present.



- IP54 Rated (Light protection against dust and low pressure water spray)
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- EMI/RFI Screening
- Three finish options of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 18 for material specification
   See pages 20 31 for dimensions

	Box Size (n	nm)				Order Code	
<b>Box Code</b>	PCB Guide	L	W	Н	Plain	Powder Coated	Nylon Coated
Α	N	89	35	30	459-0010	461-0010*	462-0010*
В	N	114	64	30	459-0020	461-0020*	462-0020*
С	N	114	89	55	459-0030	461-0030*	462-0030*
D	N	114	65	55	459-0040	461-0040*	462-0040*
Е	N	172	121	55	459-0050	461-0050*	462-0050*
F	N	172	121	106	459-0060	461-0060*	462-0060*
G	N	222	146	55	459-0070	461-0070*	462-0070*
Н	N	222	146	106	459-0080	461-0080*	462-0080*
J	Υ	275	175	65	459-0090	461-0090*	462-0090*
K	Υ	140	102	76	459-0100	461-0100*	462-0100*
L	Υ	165	127	76	459-0110	461-0110*	462-0110*
M	Υ	120	100	35	459-0120	461-0120*	462-0120*
N	Υ	250	250	100	459-0130	461-0130*	462-0130*
Р	Υ	80	55	25	459-0140	461-0140*	462-0140*
Q	Υ	60	55	30	459-0150	459-0150*	462-0150*
			*Code Si	uffix: Gre	y = A, Blue = B, Black =	E	



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details
• Machining • Painting • Printing • Assembly



### IP54 General Purpose Flanged Enclosures



Ideal for light duty environments

With an IP54 rating, this versatile range offers light protection against dust and low pressure water spray. Nine sizes are available which come complete with screws and PCB guides. This range is suited to applications in low risk environments where only a minor amount of moisture is present.



- IP54 Rated (Light protection against dust and low pressure water spray)
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- EMI/RFI Screening
- Three finish options of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 18 for material specification
   See pages 20 31 for dimensions

	Box Si	ze (mm)		Order Code										
<b>Box Code</b>	PCB Guide	L	L (exc flg)	W	Н	Plain	Powder Coat	Nylon Coat						
Α	Υ	114	89	35	30	455-0010	457-0010*	458-0010*						
В	Υ	140	114	64	30	455-0020	457-0020*	458-0020*						
С	C Y 140 114 89 55 455-0030 457-0030* 458-0030*													
D	Υ	140	115	64	55	455-0040	457-0040*	458-0040*						
E	Υ	202	172	121	55	455-0050	457-0050*	458-0050*						
F	Υ	202	172	121	106	455-0060	457-0060*	458-0060*						
G	Υ	252	223	146	55	455-0070	457-0070*	458-0070*						
K	Υ	170	140	102	76	455-0100	457-0100*	458-0100*						
M	Υ	150	120	100	35	455-0120	457-0120*	458-0120*						
			*Code Suf	fix: Grev	= A. Blu	e = B. Black = E								



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details
• Machining • Painting • Printing • Assembly



### IP66 General Purpose Enclosures



Ideal for low-level moisture environments

If light protection against water ingress is essential, this IP66 rated range may be ideal. The range is dust proof, splash proof and protects from powerful jets of water, as per BS EN 60529:1992. Fifteen sizes are available which come complete with screws, and selected sizes include PCB guides.



- IP66 Rated (Dust proof, splash proof, protects from powerful jets of water)
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finish options of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 18 for material specification
   See pages 20 31 for dimensions

	Box Size (n	nm)				Order Code	
Box Code	PCB Guide	L	W	Н	Plain	Powder Coated	Nylon Coated
А	N	89	35	31	460-0010	453-0010*	454-0010*
В	N	114	64	31	460-0020	453-0020*	454-0020*
С	N	114	89	56	460-0030	453-0030*	454-0030*
D	N	114	65	56	460-0040	453-0040*	454-0040*
E	N	172	121	56	460-0050	453-0050*	454-0050*
F	N	172	121	107	460-0060	453-0060*	454-0060*
G	N	222	146	56	460-0070	453-0070*	454-0070*
Н	N	222	146	107	460-0080	453-0080*	454-0080*
J	Υ	275	175	66	460-0090	453-0090*	454-0090*
K	Υ	140	102	77	460-0100	453-0100*	454-0100*
L	Υ	165	127	77	460-0110	453-0110*	454-0110*
M	Υ	120	100	36	460-0120	453-0120*	454-0120*
N	Υ	250	250	100	460-0130	453-0130*	454-0130*
Р	Υ	80	55	26	460-0140	453-0140*	454-0140*
Q	Υ	60	55	31	460-0150	453-0150*	454-0150*
			*Code Si	ıffix: Gre	y = A, Blue = B, Black =	E	



#### Custom Services

Save time and cut costs with our in-house machining service - See page 8 for full details
• Machining • Painting • Printing • Assembly



#### IP66 General Purpose Flanged Enclosures



Ideal for low-level moisture environments

If light protection against water ingress is essential, this IP66 rated range may be ideal. The range is dust proof, splash proof and protects from powerful jets of water, as per BS EN 60529:1992. Nine sizes are available which come complete screws and PCB guides.



- IP66 Rated (Dust proof, splash proof, protects from powerful jets of water)
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finish options of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 18 for material specification
   See pages 20 31 for dimensions

	Box Si	ze (mm)					Order Code	
<b>Box Code</b>	PCB Guide	L	L (exc flg)	W	Н	Plain	Powder Coat	Nylon Coat
Α	Υ	114	89	35	31	456-0010	463-0010*	464-0010*
В	Υ	140	114	64	31	456-0020	463-0020*	464-0020*
С	Υ	140	114	89	56	456-0030	463-0030*	464-0030*
D	Υ	140	115	64	56	456-0040	463-0040*	464-0040*
Е	Υ	202	172	121	56	456-0050	463-0050*	464-0050*
F	Υ	202	172	121	107	456-0060	463-0060*	464-0060*
G	Υ	252	223	146	56	456-0070	463-0070*	464-0070*
K	Υ	170	140	102	77	456-0100	463-0100*	464-0100*
M	Υ	150	120	100	36	456-0120	463-0120*	464-0120*
			*Code Suf	fix: Grey	= A, Blu	e = B, Black = E		



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details
• Machining • Painting • Printing • Assembly



### **IP68 General Purpose Enclosures**



Ideal for applications subject to high levels of moisture

For more demanding applications, an IP68 enclosure offers protection against complete submersion in water at depths of 5 metres for 1 hour, certified to BS EN 60529:1992. Fifteen sizes are available which come complete with screws and selected sizes also include PCB guides.



- IP68 Rated (Submersion in water at depths of 5 metres for 1 hour)
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finishes of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 18 for material specification
   See pages 20 31 for dimensions

	Box Size (n	nm)				Order Code	
Box Code	PCB Guide	L	W	Н	Plain	Powder Coated	Nylon Coated
А	N	89	35	31	480-0010	481-0010*	482-0010*
В	N	114	64	31	480-0020	481-0020*	482-0020*
С	N	114	89	56	480-0030	481-0030*	482-0030*
D	N	114	65	56	480-0040	481-0040*	482-0040*
Е	N	172	121	56	480-0050	481-0050*	482-0050*
F	N	172	121	107	480-0060	481-0060*	482-0060*
G	N	222	146	56	480-0070	481-0070*	482-0070*
Н	N	222	146	107	480-0080	481-0080*	482-0080*
J	Y	275	175	66	480-0090	481-0090*	482-0090*
K	Y	140	102	77	480-0100	481-0100*	482-0100*
L	Υ	165	127	77	480-0110	481-0110*	482-0110*
М	Υ	120	100	36	480-0120	481-0120*	482-0120*
N	Υ	250	250	100	480-0130	481-0130*	482-0130*
Р	Υ	80	55	26	480-0140	481-0140*	482-0140*
Q	Υ	60	55	31	480-0150	481-0150*	482-0150*
			*Code Si	ıffix: Gre	y = A, Blue = B, Black =	E	



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details

• Machining • Painting • Printing • Assembly



#### IP68 General Purpose Flanged Enclosures



Ideal for applications subject to high levels of moisture

For more demanding applications, an IP68 enclosure offers protection against complete submersion in water at depths of 5 metres for 1 hour, certified to BS EN 60529:1992. Nine sizes are available which come complete with screws and PCB guides.



- IP68 Rated (Submersion in water at depths of 5 metres for 1 hour)
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finishes of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 18 for material specification
   See pages 20 31 for dimensions

	Box S	ize (mm)					Order Code	
<b>Box Code</b>	PCB Guide	L	L (exc flg)	W	Н	Plain	Powder Coat	Nylon Coat
Α	Υ	114	89	35	31	483-0010	484-0010*	485-0010*
В	Υ	140	114	64	31	483-0020	484-0020*	485-0020*
С	Υ	140	114	89	56	483-0030	484-0030*	485-0030*
D	Υ	140	115	64	56	483-0040	484-0040*	485-0040*
Е	Υ	202	172	121	56	483-0050	484-0050*	485-0050*
F	Υ	202	172	121	107	483-0060	484-0060*	485-0060*
G	Y	252	223	146	56	483-0070	484-0070*	485-0070*
K	Υ	170	140	102	77	483-0100	484-0100*	485-0100*
M	Y	150	120	100	36	483-0120	484-0120*	485-0120*
			*Code Suf	fix: Grey	= A, Blu	e = B, Black = E		



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details

• Machining • Painting • Printing • Assembly



### IP68 EMI/RFI General Purpose Enclosures



Ideal for applications subject to high levels of moisture

Offering enhanced EMI/RFI protection, rated at IP68, this range incorporates a semi-conductive sealing mechanism, which maintains conductivity between the lid and the enclosure whilst maintaining protection from dust and water ingress. Fifteen sizes are available which come complete with screws and selected sizes also include PCB guides.



- Enhanced EMI/RFI protection (See page 19 for more details)
- IP68 Rated (Submersion in water at depths of 5 metres for 1 hour)
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finishes of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 18 for material specification
   See pages 20 31 for dimensions

	Box Size (n	nm)				Order Code	
<b>Box Code</b>	PCB Guide	L	W	Н	Plain	Powder Coated	Nylon Coated
Α	N	89	35	31	480-C010	481-C010*	482-C010*
В	N	114	64	31	480-C020	481-C020*	482-C020*
С	N	114	89	56	480-C030	481-C030*	482-C030*
D	N	114	65	56	480-C040	481-C040*	482-C040*
Е	N	172	121	56	480-C050	481-C050*	482-C050*
F	N	172	121	107	480-C060	481-C060*	482-C060*
G	N	222	146	56	480-C070	481-C070*	482-C070*
Н	N	222	146	107	480-C080	481-C080*	482-C080*
J	Υ	275	175	66	480-C090	481-C090*	482-C090*
K	Υ	140	102	77	480-C100	481-C100*	482-C100*
L	Υ	165	127	77	480-C110	481-C110*	482-C110*
М	Υ	120	100	36	480-C120	481-C120*	482-C120*
N	Υ	250	250	100	480-C130	481-C130*	482-C130*
Р	Υ	80	55	26	480-C140	481-C140*	482-C140*
Q	Υ	60	55	31	480-C150	481-C150*	482-C150*



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details

• Machining • Painting • Printing • Assembly



### IP68 EMI/RFI Flanged Enclosures



Ideal for applications subject to high levels of moisture

Offering enhanced EMI/RFI protection, rated at IP68, this range incorporates a semi-conductive sealing mechanism, which maintains conductivity between the lid and the enclosure whilst maintaining protection from dust and water ingress. Nine sizes are available which come complete with screws and PCB guides.



- Enhanced EMI/RFI protection (See page 19 for more details)
- IP68 Rated (Submersion in water at depths of 5 metres for 1 hour)
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finishes of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 18 for material specification
   See pages 20 31 for dimensions

	Box S	ize (mm)					Order Code	
<b>Box Code</b>	PCB Guide	L	L (exc flg)	W	Н	Plain	Powder Coat	Nylon Coat
Α	Υ	114	89	35	31	483-C010	484-C010*	485-C010*
В	Υ	140	114	64	31	483-C020	484-C020*	485-C020*
С	Υ	140	114	89	56	483-C030	484-C030*	485-C030*
D	Y	140	115	64	56	483-C040	484-C040*	485-C040*
Е	Υ	202	172	121	56	483-C050	484-C050*	485-C050*
F	Υ	202	172	121	107	483-C060	484-C060*	485-C060*
G	Υ	252	223	146	56	483-C070	484-C070*	485-C070*
K	Υ	170	140	102	77	483-C100	484-C100*	485-C100*
M	Υ	150	120	100	36	483-C120	484-C120*	485-C120*
			*Code Suf	fix: Grey	= A, Blu	e = B, Black = E		



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details
• Machining • Painting • Printing • Assembly





### General Purpose Enclosures - Material Specification

#### Material: ISO Al-Si10Cu2Fe Die Cast Aluminium Alloy

Paint Specification: Polvester Powder Coat - Fine Texture

Standard Colours: Grey to BS 381C-694/P8010/3 Blue to RAL5013/P8010/3 Black to BS 381C-642/P8010/3

Chemical Composition: Architectural grade TGIC free polyester

Specification: Qualicoat Class 1 Complies with BS476 Part 6 Fire propagation class 0

Complies with BS476 Part 7 Spread of flame class 1 Powders are available in a range of RAL colours

**Mechanical and Chemical Properties:** 

Colours and Finishes:

Test Thickness:  $65 \pm 10 \, \mu m$ 

Adhesion: GTO (equivalent to 5B according to ASTM D3359)

Pencil Hardness: >2.5Nm Impact Test: Bending: 5mm

Erichsen:

Hardness Buchholz: 1000hrs (≤3mm)

Q-Uva (340 nm):

Kesternich Corrosion: > 24 cycles (≤1mm)

Chemical Resistance:

Paint Specification: **Nylon Coat - Gloss** 

Standard Colours: Grev to RAL7001/P7000/9 Blue to RAL5012/P7000/9 Black to RAL9005/P7000/9

Polymer: Polyamide 11

Colours and Finishes: Powders are available in a range of RAL colours

**Mechanical and Chemical Properties:** (degreased, grit blasted steel and primed)

VICAT point under 1 daN: 181°C

Adhesion: Class 4 SHORE D Hardness: 70 ± 10% PERSOZ Hardness at 20%:

CS 17 Load 1Kg-100 cycles

**UV** Resistance: Very Good

Impact Resistance Ø 23mm: From 2 to 8 joule

Dielectric Breakdown Voltage

330µ >8Kv ASTM D 149-81 DIN 53 223/NFT 30-064

Lid Screws

Black Screw - optional extra

M3.5 x 0.6 x 12mm, Recessed Pozi Drive, Countersink Head, Stainless Steel, Black Nickel Plating

UNI EN ISO 2360:2004

UNI EN ISO 2409:1996

UNI EN ISO 6860:1996

ASTM D3363-00

ASTM D2794-93

EN ISO 1520:1995

EN ISO 2815:1998

ASTM B117-97

ISO 9227:1990

DIN 50017:1982

ASTM G154-00

EN ISO 3231:1997

DIN 53-ISO R 1183

DIN 16-926/NFT 30-015

DIN53 460

DIN53 505

Very Good

NFT 30-039

ASTM B 117

NFT 30-016

NFT 58-112

≥5mm (no detachments, no cracks)

Salt Spray Resistance: Acetic Acid Salt Spray: 1000hrs (≤4mm) **Humidity Resistance:** 1000hrs

200hrs (loss of gloss <50%)

Good resistance to diluted acids, alkali and oils at normal temperatures

Specific Gravity at 23°C  $1.2 \pm 0.15 \text{g/cm}^3$ 

Average thickness of coating: 100 to 200 micron

160 to 280 second

Wear TABER Resistance- wheel 4 to 12mg

Temperature Resistance: -40 to +80°C

Chemical Resistance: Oils - Grease - Solvents, Fuels, Hydrocarbons, Alkalis, Sea Water, Drinking Water

and Food Contact (Some colours)

Salt spray test after 1000hrs:

Gloss at 60°C 45 to 75%

Fixings:

Packs of 4 = 000-035-004 Packs of 6 = 000-035-006

M3.5 x 0.6 x 12mm, Recessed Pozi Drive, Countersink Head, Stainless Steel Standard Screw

Packs of 6 = 000-086-006

IP66 & IP68 Heavy Duty

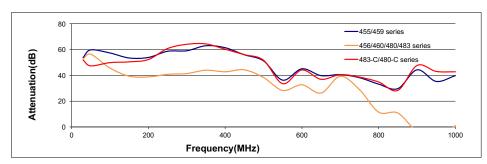
### General Purpose Enclosures - Seal Specification

IP66 Seal for General Purpose Enclosures				
Material:	Neoprene Sponge 3mm thick relaxed			
Recommended Torque Application:	0.3Nm			
Hardness Shore 00 Scale:	50			
Density (Kg.m²):	96Kg.m³			
Compression Deflection 25%:	48Kpa			
Compression Set:	<b>35%</b>			
Tensile Strength:	690 Kpa			
Elongation:	125%			
Water Absorption:	<5% max			
FMVSS302:	PASS			
UL94 HFI:	PASS			
Colour:	Black			
Adhesive Backing:	05-96ASAB			
Service Temp Constant Low:	-40°C			
Service Temp Intermittent Low:	-57°C			
Service Temp Constant High:	+93°C			
Service Temp Intermittent High:	+121°C			

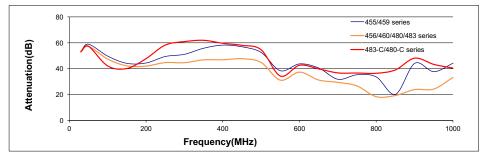
IP68 Seal for General Purpose Enclosures					
Material:	Silicone Rubber High density closed cell sponge				
Recommended Torque:	0.7Nm				
Hardness Shore:	60°C				
Density:	1.30 sg				
Compression Deflection:	290mm³				
Tensile Strength:	6 Mpa				
Elongation:	280% at break				
Water Absorption:	<b>1%</b>				
Abrasion Resistance:	330 mm <sup>3</sup>				
Colour:	Cream				
Adhesive Backing:	RA 3220				
Service Temp Constant Low:	-20°C				
Service Temp Intermittent Low:	-30°C				
Service Temp Constant High:	+90°C				
Service Temp Intermittent High:	+110°C				

IP68 Semi Conductive Seal for General Purpose EMI/RFI Enclosures						
Material:	AP701/2 semi-conductive (carbon loaded) Silicone Rubber 1.5mm thick uncompressed					
Recommended Torque:		1.0Nm				
Hardness Shore:		70°C 1 RHD				
Density:	Density:					
Tensile Strength:	Tensile Strength:					
Elongation:	Elongation:					
Water Absorption:	<b>1%</b>					
Abrasion Resistance:	330 mm <sup>3</sup>					
Colour:	Black					
Temperature Range:	-40°C - +200°C					
Shielding Effectiveness using mil-G-83528 dB Mil std 285 procedure						
·	200Khz	30dB				
	100MHz	65dB				
	500MHz	60dB				
	2Ghz	40dB				
	10Hz	30dB				

#### Based on enclosure size - 222 x 146 x 56 ('G' 459-0070)



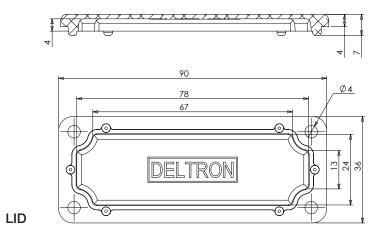
#### Based on enclosure size – 114 x 89 x 56 ('C' 459-0030)

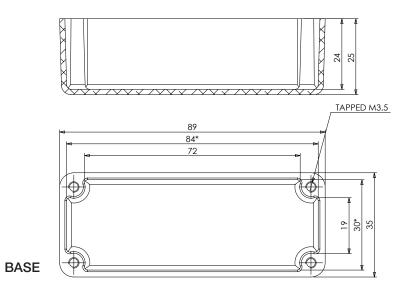


### General Purpose Enclosure Dimensions - A Box & A Box Flanged

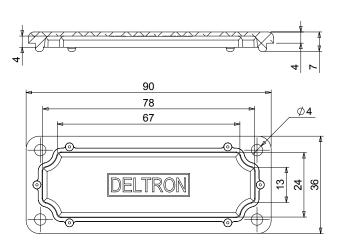
\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

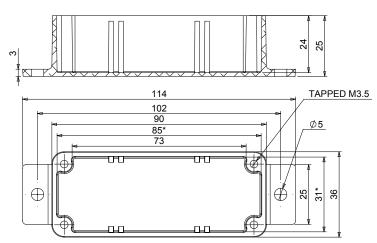






#### A Box Flanged



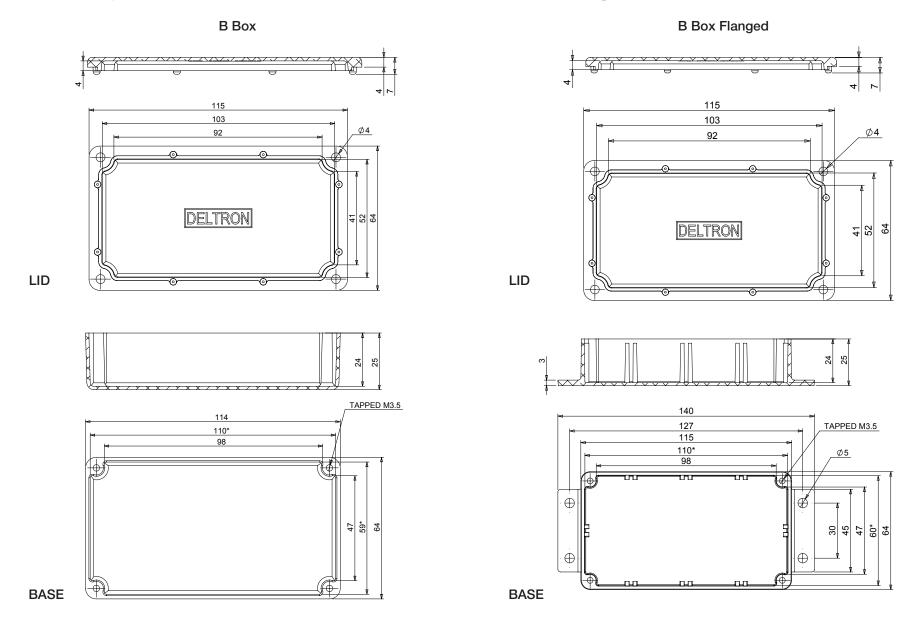


**BASE** 

LID

20

### General Purpose Enclosure Dimensions - B Box & B Box Flanged



IP54 seneral urpose

IP66 General Purpose

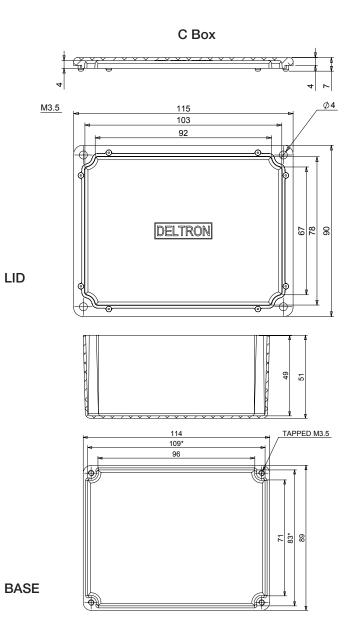
General

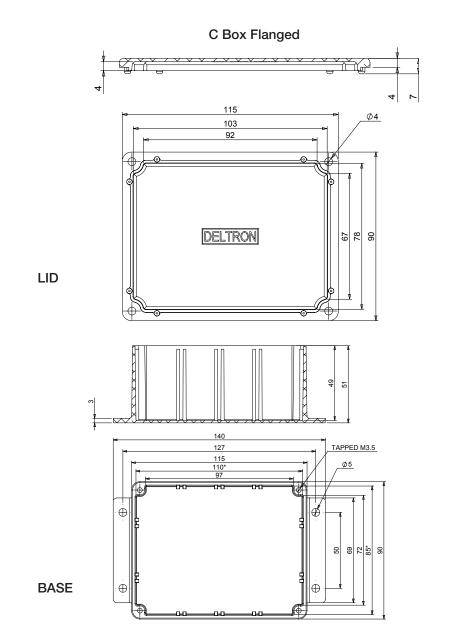
General Purnose

> leavy Duty Low Cost

### General Purpose Enclosure Dimensions - C Box & C Box Flanged

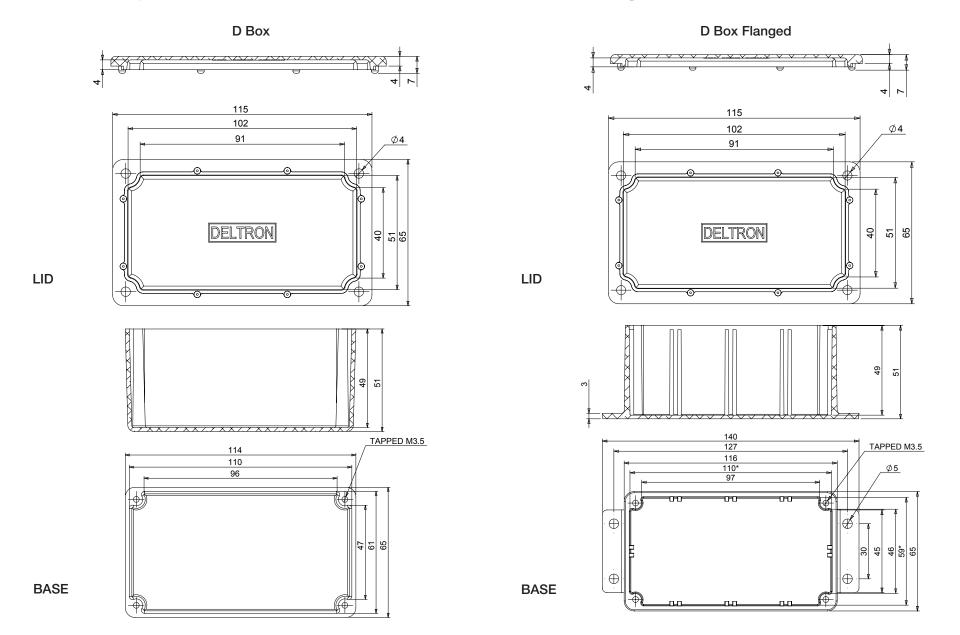
\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT





22

### General Purpose Enclosure Dimensions - D Box & D Box Flanged



IP54 seneral urpose

IP66 Seneral

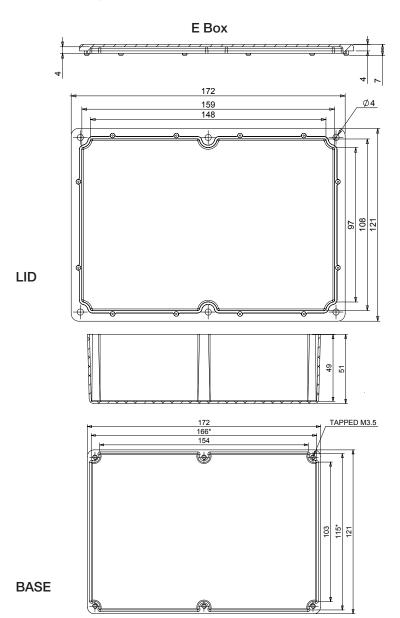
General

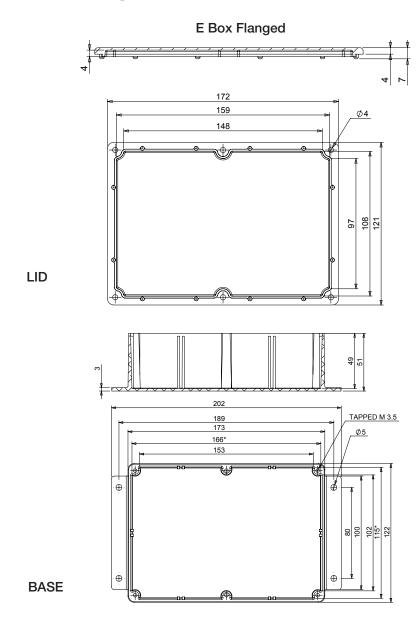
General

leavy Duty Low Cost

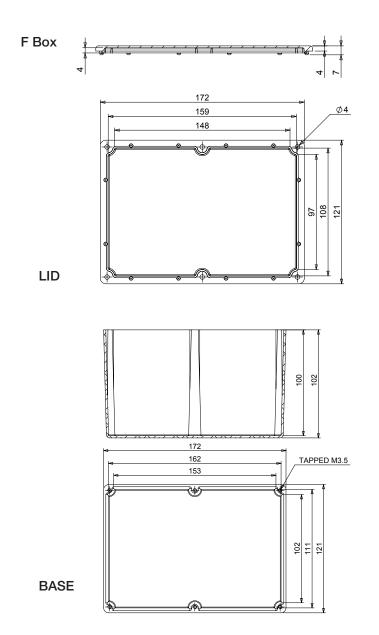
IP66 & IP68 Heavy Duty

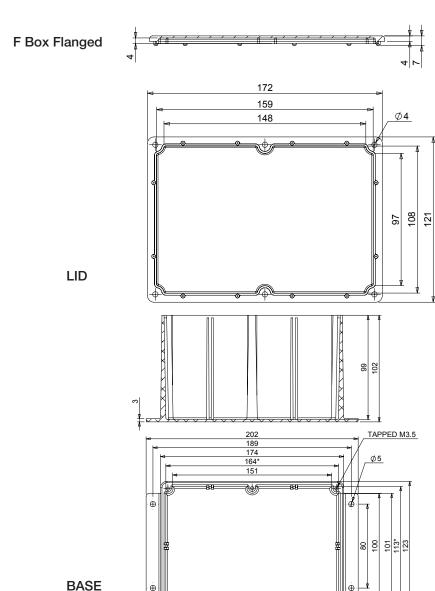
### General Purpose Enclosure Dimensions - E Box & E Box Flanged





General Purpose Enclosure Dimensions - F Box & F Box Flanged





IP54 Seneral

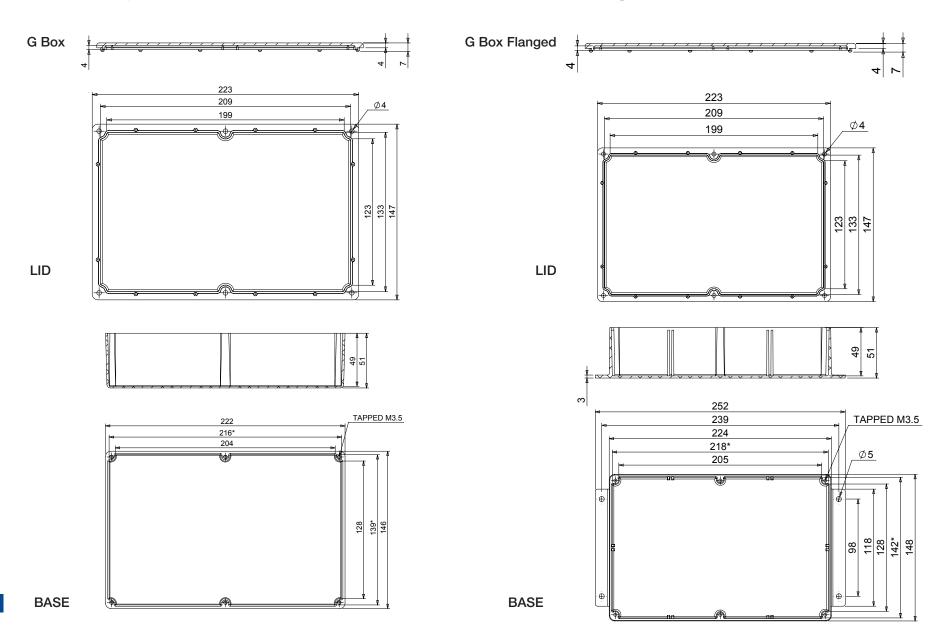
IP66 General

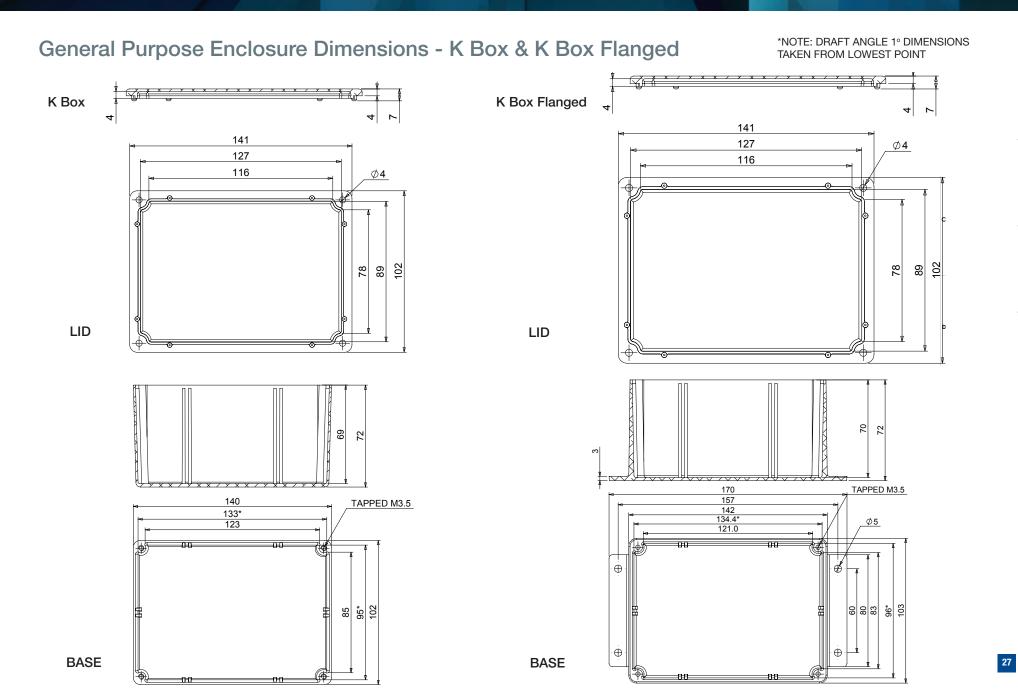
General

EMI/RFI General

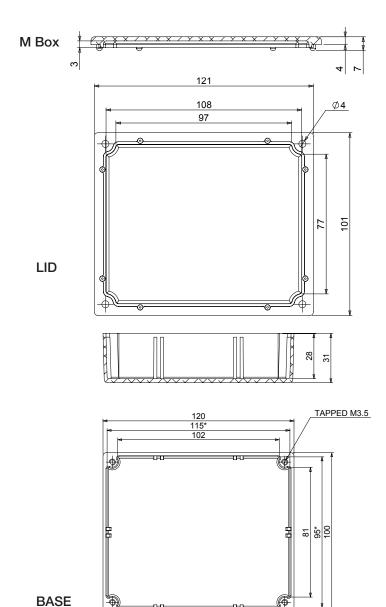
> leavy Duty Low Cost

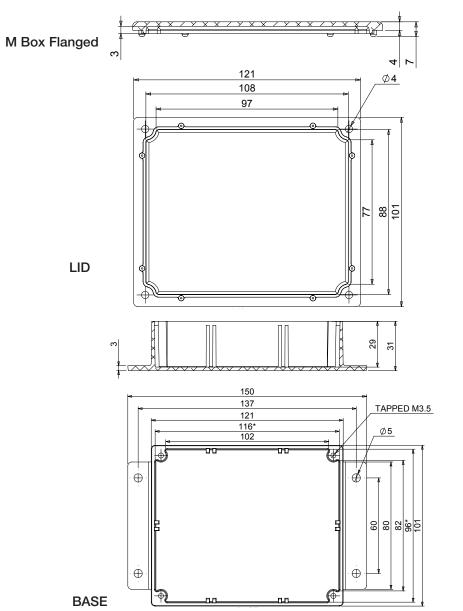
### General Purpose Enclosure Dimensions - G Box & G Box Flanged



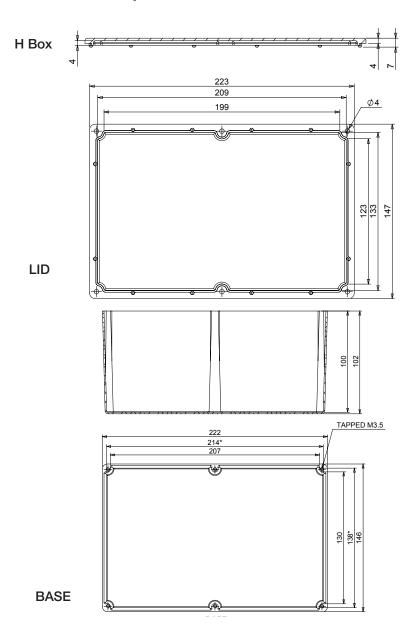


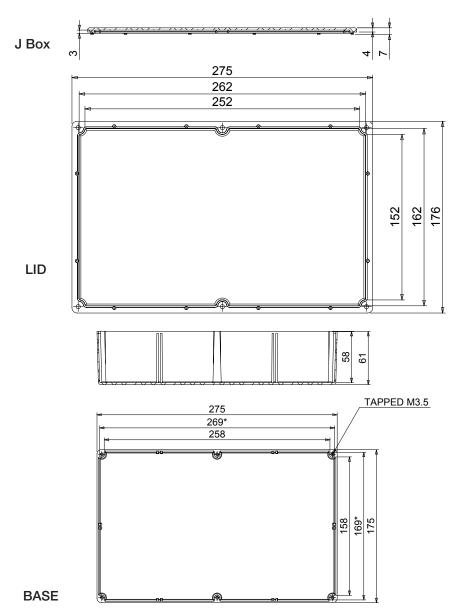
### General Purpose Enclosure Dimensions - M Box & M Box Flanged





General Purpose Enclosure Dimensions - H Box & J Box





IP54 keneral urpose

IP66 General

IP68 General Purnose

General Pumose

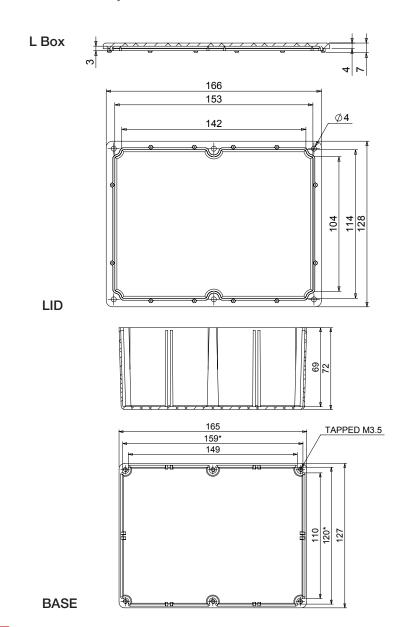
> leavy Duty Low Cost

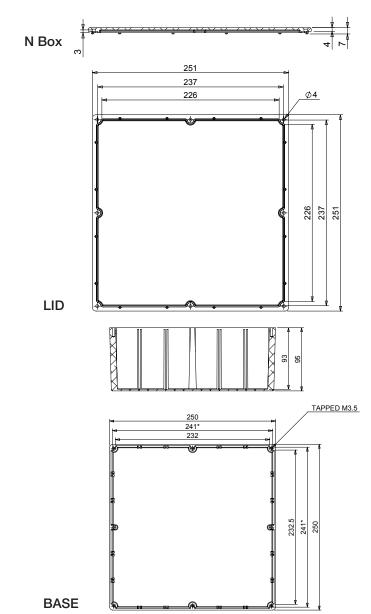
IP66 & IP68 Heavy Duty

Corrosion & Impact

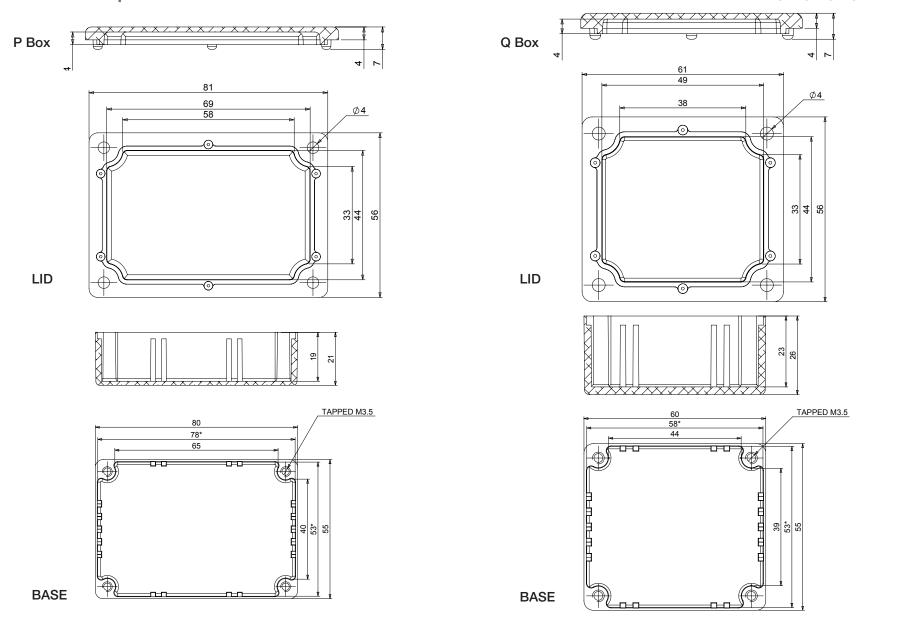
Plastic

### General Purpose Enclosure Dimensions - L Box & N Box





### General Purpose Enclosure Dimensions - P Box & Q Box



### **Heavy Duty Low Cost Enclosures**



Ideal for applications that require a robust enclosure without ingress protection

For applications where ingress protection is not critical to the performance of the internal components, yet a robust enclosure is required, this range is an excellent low cost option. Eight sizes are available which come complete with captive screws, earth screws, PCB card guides and DIN rail mounting points.



- Low cost enclosure option
- Hard-wearing, robust range
- RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finishes of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 35 for material specification

See pages 38 - 41 for dimensions

Box Size (mm)					Order Code		
<b>Box Code</b>	PCB Guide	L	W	Н	Plain	Powder Coated	Nylon Coated
121208	Υ	125	125	80	486-121208	487-121208*	488-121208*
121209	Υ	125	125	90	486-121209	487-121209*	488-121209*
130806	Υ	130	80	60	486-130806	487-130806*	488-130806*
161609	Υ	160	160	90	486-161609	487-161609*	488-161609*
221208	Υ	220	120	80	486-221208	487-221208*	488-221208*
221209	Υ	220	120	90	486-221209	487-221209*	488-221209*
261609	Υ	260	160	90	486-261609	487-261609*	488-261609*
261612	Υ	260	160	120	486-261612	487-261612*	488-261612*
	*Code Suffix: Grey = A, Blue = B, Black = E						



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details

• Machining • Painting • Printing • Assembly



### IP66 Heavy Duty Enclosures



Ideal for tough environments where ingress protection is essential

This range is ideal for designs where a robust box with ingress protection is a priority. Eight sizes are available which come complete with captive screws, earth screws, PCB card guides and DIN rail mounting points.



- IP66 rated (Dust proof, splash proof, and protects from powerful jets of water)
- Hard-wearing, robust range
- Certified to BS EN 60529:1992 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finishes of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 35 for material specification
   See pages 38 41 for dimensions

Box Size (mm)					Order Code		
<b>Box Code</b>	PCB Guide	L	W	Н	Plain	Powder Coated	Nylon Coated
121208	Υ	125	125	80	486-121208-66	487-121208*-66	488-121208*-66
121209	Υ	125	125	90	486-121209-66	487-121209*-66	488-121209*-66
130806	Υ	130	80	60	486-130806-66	487-130806*-66	488-130806*-66
161609	Υ	160	160	90	486-161609-66	487-161609*-66	488-161609*-66
221208	Y	220	120	80	486-221208-66	487-221208*-66	488-221208*-66
221209	Υ	220	120	90	486-221209-66	487-221209*-66	488-221209*-66
261609	Υ	260	160	90	486-261609-66	487-261609*-66	488-261609*-66
261612	Υ	260	160	120	486-261612-66	487-261612*-66	488-261612*-66
			*Code Si	uffix: Gre	v = A. Blue = B. Black =	E	



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details

• Machining • Painting • Printing • Assembly



### **IP68 Heavy Duty Enclosures**



Ideal for demanding environments that require more protection than IP66

Complete ingress protection combined with a hard-wearing enclosure, makes this range ideal for applications in particularly demanding environments. They have been tested submerged up to 10m for 20 hours for excellent ingress protection. Eight sizes are available which come complete with captive screws, earth screws, PCB card guides and DIN rail mounting points.



- IP68 Rated (Submersion in water at depths of 10 metres for 20 hours)
- Hard-wearing, robust range
- Certified to BS EN 60529:1991 and RoHS Compliant
- Manufactured from LM2/ADC12/AL-Si10CuFe
- Three finishes of plain aluminium, powder coat or nylon coat
- Can be customised in our UK factory, see page 8 for more details
   See page 35 for material specification
   See pages 38 41 for dimensions

Box Size (mm)					Order Code		
<b>Box Code</b>	PCB Guide	L	W	Н	Plain	Powder Coat	Nylon Coat
121208	Υ	125	125	80	486-121208-68	487-121208*-68	488-121208*-68
121209	Y	125	125	90	486-121209-68	487-121209*-68	488-121209*-68
130806	Y	130	80	60	486-130806-68	487-130806*-68	488-130806*-68
161609	Υ	160	160	90	486-161609-68	487-161609*-68	488-161609*-68
221208	Υ	220	120	80	486-221208-68	487-221208*-68	488-221208*-68
221209	Y	220	120	90	486-221209-68	487-221209*-68	488-221209*-68
261609	Υ	260	160	90	486-261609-68	487-261609*-68	488-261609*-68
261612	Υ	260	160	120	486-261612-68	487-261612*-68	488-261612*-68
*Code Suffix: Grov - A Rive - R Black - F							



#### **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details

• Machining • Painting • Printing • Assembly



### **Heavy Duty Enclosures – Material Specification**

Material: ISO Al-Si10Cu2Fe Die Cas	st Aluminium Alloy	
Paint Specification:	Polyester Powder Coat – Smooth	
Standard Colours:	Grey to RAL7001/P7000/9 Blue to RAL5013/P7000/9 Black to RAL9005/P7000/9	
Chemical Composition:	Architectural grade TGIC free polyester	
Specification:	Qualicoat Class 1 Complies with BS476 Part 6 Fire propagation class 0	
	Complies with BS476 Part 7 Spread of flame class 1	
Colours and Finishes:	Powders are available in a range of RAL colours	
Mechanical and Chemical Properties:		
Test Thickness:	65 ± 10 μm	UNI EN ISO 2360:2004
Adhesion:	GTO (equivalent to 5B according to ASTM D3359)	UNI EN ISO 2409:1996
Pencil Hardness:	H-2H	ASTM D3363-00
Impact Test:	≥2.5Nm	ASTM D2794-93
Bending:	5mm	UNI EN ISO 6860:1996
Erichsen:	≥5mm (no detachments, no cracks)	EN ISO 1520:1995
Hardness Buchholz:	≥80	EN ISO 2815:1998
Salt Spray Resistance:	1000hrs (≤3mm)	ASTM B117-97
Acetic Acid Salt Spray:	1000hrs (≤4mm)	ISO 9227:1990
Humidity Resistance:	1000hrs	DIN 50017:1982
Q-Uva (340 nm):	200hrs (loss of gloss <50%)	ASTM G154-00
Kesternich Corrosion:	> 24 cycles (≤1mm)	EN ISO 3231:1997
Chemical Resistance:	Good resistance to diluted acids, alkali and oils at normal temperatures	
Paint Specification:	Nvlon Coat - Gloss	
Standard Colours:	Grey to RAL7001/P7000/9 Blue to RAL5012/P7000/9 Black to RAL9005/P7000/9	
Polymer:	Polyamide 11	
Mechanical and Chemical Properties:	(degreased, grit blasted steel and primed)	
Specific Gravity at 23°C	$1.2 \pm 0.15 \text{g/cm}^3$	DIN 53-ISO R 1183
Average thickness of coating:	100 to 200 micron	
VICAT point under 1 daN:	181°C	DIN53 460
Adhesion:	Class 4	NFT 58-112
SHORE D Hardness:	70 ± 10%	DIN53 505
PERSOZ Hardness at 20%:	160 to 280 second	NFT 30-016
Wear TABER Resistance- wheel	4 to 12mg	DIN 16-926/NFT 30-015
CS 17 Load 1Kg-100 cycles	. to .z.ng	5.11 10 020/11 1 00 010
Temperature Resistance:	-40 to +80°C	
Chemical Resistance:	Oils - Grease - Solvents, Fuels, Hydrocarbons, Alkalis, Sea Water, Drinking Water	
onomical ricolotarico.	and Food Contact (Some Colours)	Very Good
JV Resistance:	Very Good	101, GOOD
mpact Resistance Ø 23mm:	From 2 to 8 joule	NFT 30-039
Salt spray test after 1000hrs:	Trom 2 to 0 jouio	ASTM B 117
Dielectric Breakdown Voltage		AOIM D III
330µ	>8Kv	ASTM D 149-81
Gloss at 60°C	45 to 75%	DIN 53 223/NFT 30-064
	10 10 10 / 0	DII 1 00 LEO/141 1 00 00T
Fixings:	Stainless steel SS304 - Cheese Head - M6 x 25mm	
Captive Lid Screw:		
Earth Screw:	Single coil spring washer stem. Material C1010 Cu plating. M6 x 8mm	

## IP66 & IP68 Heavy Duty Enclosures – Seal Specification

IP66 Seal for Heavy Duty Enclosures				
Material:	Silicone Rubber Sponge			
Temperature Rating:	Standard Operating -60°C to +200°C			
Environmental Resistance:	Excellent resistance to the following: Ozone – Oxidation – UV Light – Corona Discharge – Cosmic Radiation – Ionising Radiation			
Flammability Characteristics:	Limiting oxygen index of 23.2% (BS 2872 Part 1) Tested to FAR 25.853			
Moisture Absorption:	The range has an extremely low degree of moisture absorption; mechanical properties shows little change even after very long periods of exposure to liquids.			

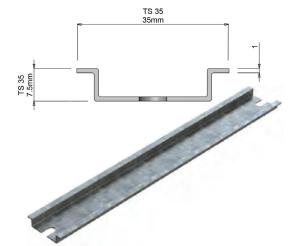
IP68 Seal for Heavy Duty Enclosures					
Material:	01-255FR - Silicone Rubber Sponge				
Temperature Rating:	Standard Operating -60°C to +200°C +240°C for up to 10 hours, brittle point -80°C in accordance with ASTM D746				
Environmental Resistance:	Excellent resistance to the following: Ozone – Oxidation – UV Light – Corona Discharge – Cosmic Radiation – Ionising Radiation – General Weathering				
Flammability Characteristics:	01-255FR has a limiting oxygen index of 23.2% (BS 2872 Part 1) Tested to FAR 25.853. Appendix F (b) part 5 burn rate of 0.4" per minute exceeds the requirements of FAR 25.853 (a)(1) (i), (a)(1)(ii) vertical and (a)(1)(iv), (a)(1)(v) horizontal flammability tests				
Moisture Absorption:	The range has an extremely low degree of moisture absorption; mechanical properties shows little change even after very long periods of exposure to liquids.				

# **Heavy Duty Enclosure Accessories**

## **Terminal DIN Rails**

- DIN rails for mounting standard components within the enclosure
- · Manufactured from steel, galvanised and passivated
- Supplied complete with fixing screws
- Suitable for all Deltron Heavy Duty Enclosure ranges

4	IDR 35 Style
<b>Box Code</b>	<b>DIN Rail Part Number</b>
121208	4DR3512
121209	4DR3512
130806	4DR3513
161609	4DR3516
221208	4DR3522
221209	4DR3522
261609	4DR3526
261612	4DR3526
120805	4DR3527
170805	4DR3528
250805	4DR3529
101008	4DR3530
121208	4DR3531
121209	4DR3531
141409	4DR3532



## Earth Lead

- 12.5mm<sup>2</sup> Earth Cable
- 4ELM6 = M6-M6 Insulated Ring Terminals

•	4ELM4 = M4-M4	Insulated	Ring	Terminals

<b>Box Code</b>	Part Number	Length mm
121208	4ELM4	
121209	4ELM4	
130806	4ELM4	
161609	4ELM4	210mm
221208	4ELM4	210111111
221209	4ELM4	
261609	4ELM6	
261612	4ELM6	



## **Internal Mounting Plates**

- 1.5mm steel, galvanised and passivated
- Supplied complete with fixing screws
- Suitable for all Deltron Heavy Duty Enclosure ranges

<b>Box Code</b>	Mounting Plate Part Number	Style
121208	4MP1212	1
121209	4MP1212	1
130806	4MP1308	2
161609	4MP1616	1
221208	4MP2212	1
221209	4MP2212	1
261609	4MP2616	1
261612	4MP2616	1
060503	4MP0605	1
070805	4MP0708	1
120805	4MP1208	1
170805	4MP1708	1
250805	4MP2508	1
101008	4MP1010	1
121208	4MP1212	1
121209	4MP1212	1
141409	4MP1414	1





## Spares

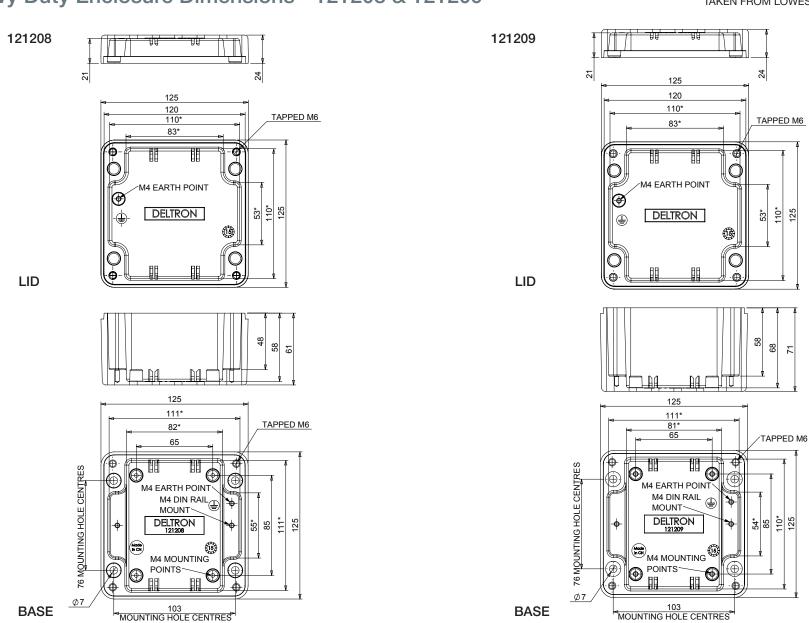
For spare seals, earth screws and lid screws, please contact us by phoning +44 (0)1724 273206 or email sales@dem-uk.com

**BASE** 

# Heavy Duty Enclosure Dimensions - 121208 & 121209

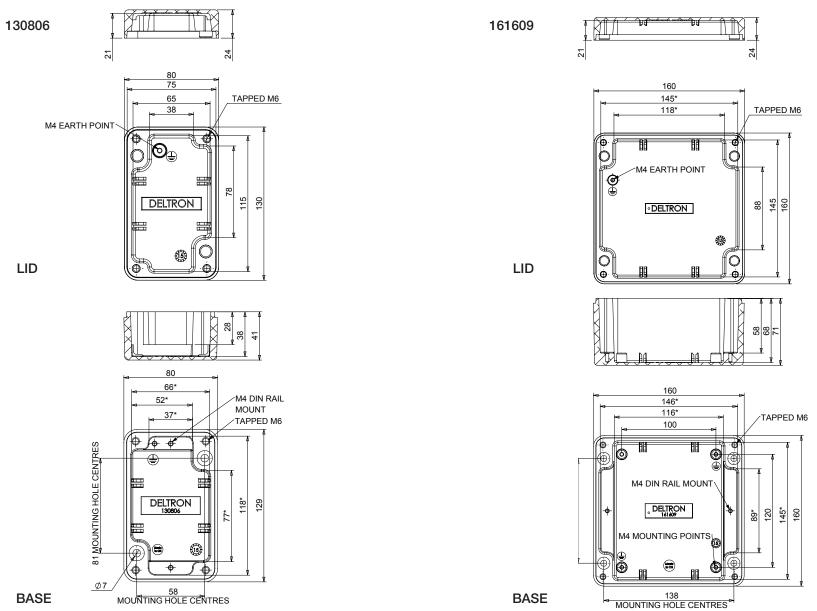
103 MOUNTING HOLE CENTRES

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT



# Heavy Duty Enclosure Dimensions - 130806 & 161609

\*NOTE: DRAFT ANGLE 1º DIMENSIONS TAKEN FROM LOWEST POINT



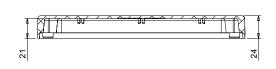
## \*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

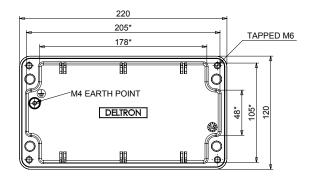
# Heavy Duty Enclosure Dimensions - 221208 & 221209

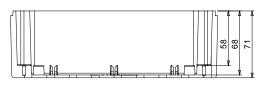
221208 221209 220 205\* TAPPED M6 178\* M4 EARTH POINT 48\* 105\* 120 LID LID 220 206\* 176\* /TAPPED M6 71 MOUNTING HOLE CENTRES **■** M4 DIN RAIL MOUNT 50\* 120

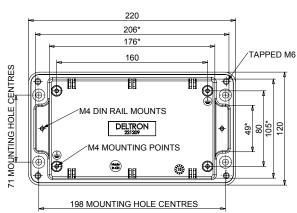
MOUNTING POINTS

198 MOUNTING HOLE CENTRES





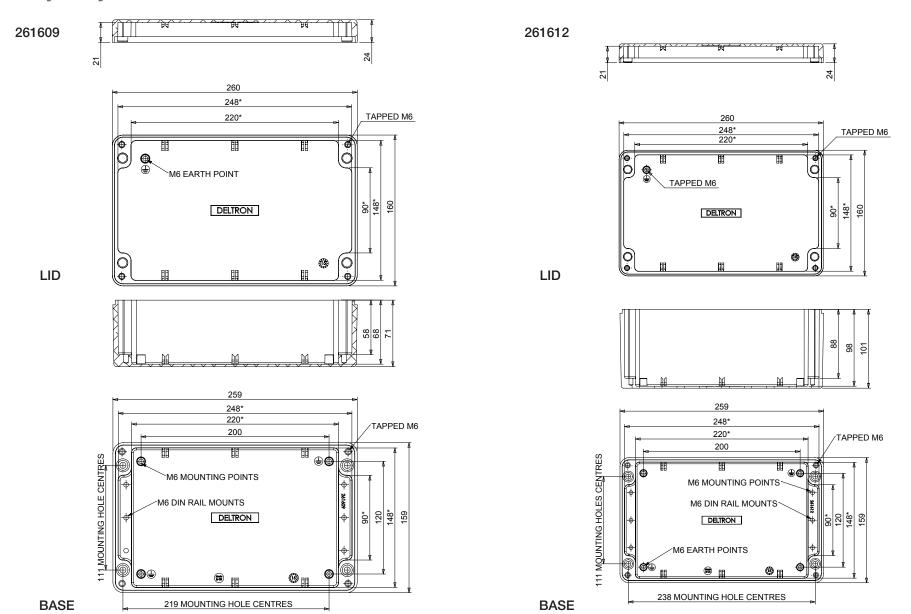




**BASE** 

# Heavy Duty Enclosure Dimensions - 261609 & 261612

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT



# IP66 Corrosion and Impact Resistant Enclosures



Ideal for environments with high levels of corrosive substances

Deltron's best protection yet over the combined effects of water, impact and corrosive environments to deliver a longer lasting enclosure. When powder coated the range offers protection against salt spray for up to 1000 hours and impact resistance of 7 joules, whilst maintaining its IP66 rating.



- Corrosion Resistant (>1000 hours in salt spray)
- Impact Resistant (Up to 7 Joules as per EN 60079)
- IP66 Rated (Dust proof, splash proof, protects from powerful jets of water)
- Manufactured from aluminium alloy GD-AlSi12
- Certified to IS/IEC 60529:2001 and RoHS Compliant
- Finished with an Epoxy-Polyester (hybrid) coating in grey
- Can be customised in our UK factory, see page 8 for more details

See page 44 for material specification See pages 45 - 49 for dimensions

	Box Size (	mm)	Order	Code		
Box Code	Code PCB Guide L		W	Н	Plain	Powder Coated
040503	N	45	50	30	489-040503-66	490-040503*-66
060503	N	64	58	34	489-060503-66	490-060503*-66
070805	N	75	80	57	489-070805-66	490-070805*-66
120805	N	125	80	57	489-120805-66	490-120805*-66
170805	N	175	80	57	489-170805-66	490-170805*-66
250805	N	250	80	57	489-250805-66	490-250805*-66
101008	N	100	100	81	489-101008-66	490-101008*-66
121208	N	122	120	81	489-121208-66	490-121208*-66
121209	N	122	120	91	489-121209-66	490-121209*-66
141409	N	140	140	91	489-141409-66	490-141409*-66
	*	Code Suff	ix: Grey =	A, Black :	= E, Red = R.	



## **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details

• Machining • Painting • Printing • Assembly



Technical Assistance Any questions? Call +44 (0)1724 273206

## IP68 Corrosion and Impact Resistant Enclosures



Ideal for environments with high levels of electrolytes such as marine or buried applications

Deltron's best protection yet over the combined effects of water, impact and corrosive environments to deliver a longer lasting enclosure. When powder coated the range offers protection against salt spray for up to 1000 hours and impact resistance of 7 joules, whilst maintaining its IP68 rating.



- Corrosion Resistant (>1000 hours in salt spray)
- Impact Resistant (Up to 7 Joules as per EN 60079)
- IP68 Rated (Submersion in water at depths of 5 metres for 1 hour)
- Manufactured from aluminium alloy GD-AlSi12
- Certified to IS/IEC 60529:2001 and RoHS Compliant
- Finished with an Epoxy-Polyester (hybrid) coating in grey
- Can be customised in our UK factory, see page 8 for more details

See page 44 for material specification See pages 45 - 49 for dimensions

	Box Size (	mm)	Uraei	r Coae		
<b>Box Code</b>	PCB Guide L W H Plain		Plain	Powder Coated		
040503	N	45	50	30	489-040503-68	490-040503*-68
060503	N	64	58	34	489-060503-68	490-060503*-68
070805	N	75	80	57	489-070805-68	490-070805*-68
120805	N	125	80	57	489-120805-68	490-120805*-68
170805	N	175	80	57	489-170805-68	490-170805*-68
250805	N	250	80	57	489-250805-68	490-250805*-68
101008	N	100	100	81	489-101008-68	490-101008*-68
121208	N	122	120	81	489-121208-68	490-121208*-68
121209	N	122	120	91	489-121209-68	490-121209*-68
141409	N	140	140	91	489-141409-68	490-141409*-68
	,	Code Suff	ix: Grey =	A, Black :	= E, Red = R	



## **Custom Services**

Save time and cut costs with our in-house machining service - See page 8 for full details
• Machining • Painting • Printing • Assembly



Technical Assistance Any questions? Call +44 (0)1724 273206



IP54 General

IP66 General

## Corrosion and Impact Resistant Enclosures - Material Specification

## **Corrosion and Impact Resistant Enclosures**

Paint Specification: Thermosetting Epoxy-Polyester Hybrid

Standard Colours: Grey (Silvergrau) RAL 7001, Black RAL 9005 and PO Red RAL 3001

Colours and Finishes: Powders are available in a range of RAL colours

**Mechanical and Chemical Properties:** 

Test Thickness:  $60 \pm 10 \mu m$ 

Adhesion: Cross Cut / Hatch (1 mm) GT-0 (100%)

Pencil Hardness: HB TO 4H

Impact Test: Impact Direct Minimum 60 Kg/cm, Impact Reverse Minimum 40 Kg/cm

Bending: ≥5mm Erichsen: ≥5mm

Salt Spray Resistance: 1000hrs (≤3mm)

Humidity Resistance: 1000hrs

Chemical Resistance: Good resistance to diluted acids, alkali and alcohols at normal temperatures

Scrape Adhesion ≥7.5kg

UNI EN ISO 2360:2004

DIN 53151 ASTM D3363-00

ASTM D2794 DIN 531 DIN531

ASTM B117 ASTM D2247

**ASTM D2197** 

### IP66 & IP68 Seal for Corrosion and Impact Resistant Enclosures

Material: Moulded Silicon Rubber (Vulcanized/Heat-Treated).

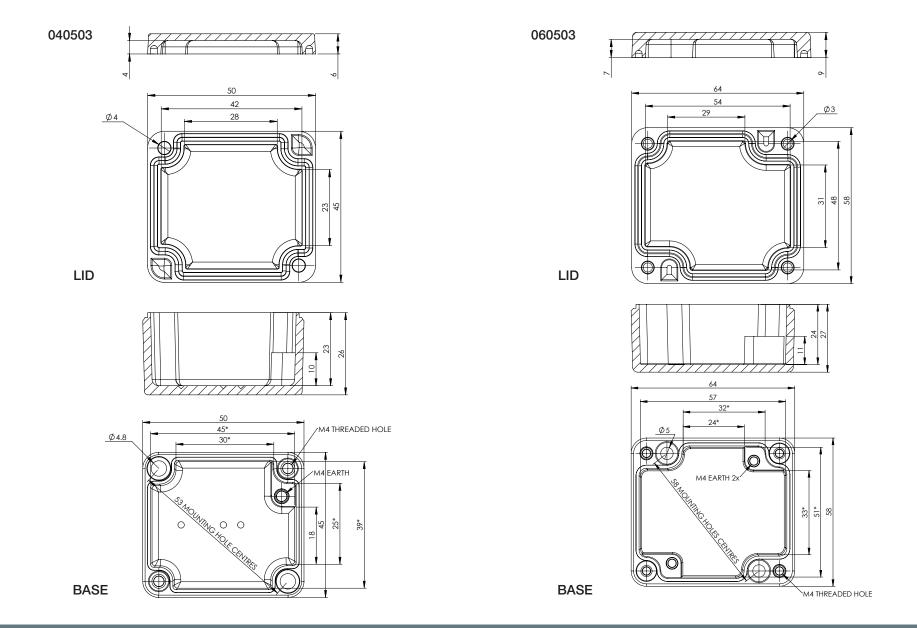
Temperature Rating: Standard Operating -60°C to +170°C.

Environmental Resistance: Excellent resistance to the following: Ozone - Oxidation - UV Light - Corona Discharge - Cosmic Radiation - Ionising Radiation - General Weathering

Moisture Absorption: The range has an extremely low degree of moisture absorption; mechanical properties shows little change even after very long periods of exposure to liquids.

Corrosion & Impact Resistant Enclosure Dimensions - 040503 & 060503

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

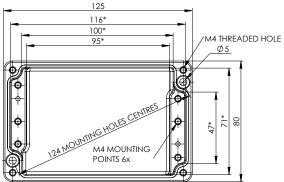


**BASE** 

# Corrosion & Impact Resistant Enclosure Dimensions - 070805 & 120805

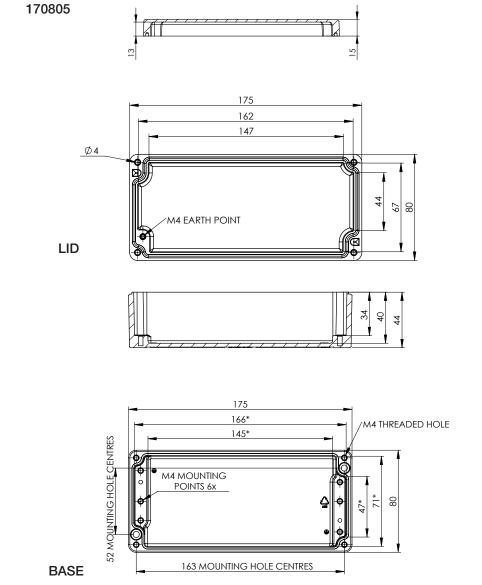
\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

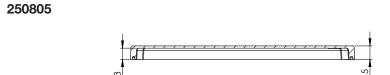
070805 44 49 64 M4 EARTH LID 71\* /M4 THREADED HOLE M4 MOUNTING POINTS 6x 45\* 50\* 66\* 75

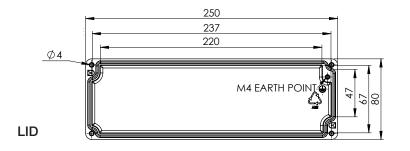


# Corrosion & Impact Resistant Enclosure Dimensions - 170805 & 250805

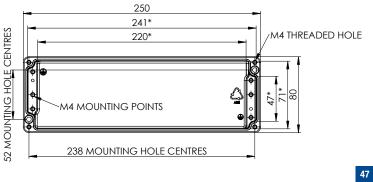
\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT





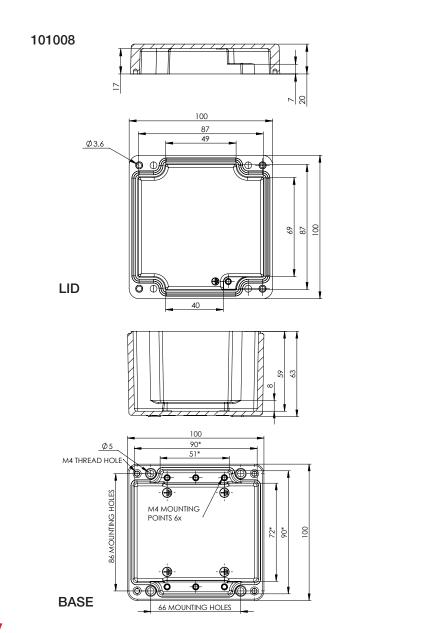


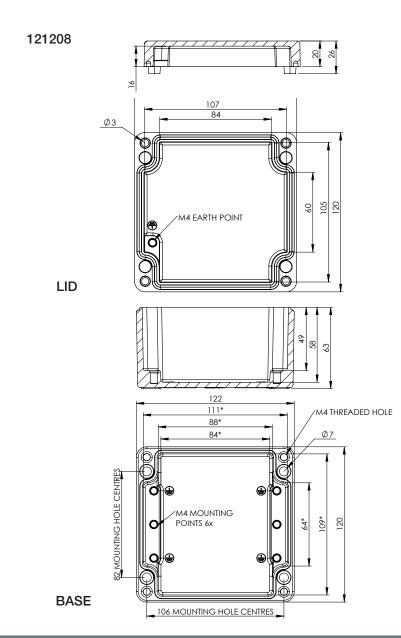




# Corrosion & Impact Resistant Enclosure Dimensions - 101008 & 121208

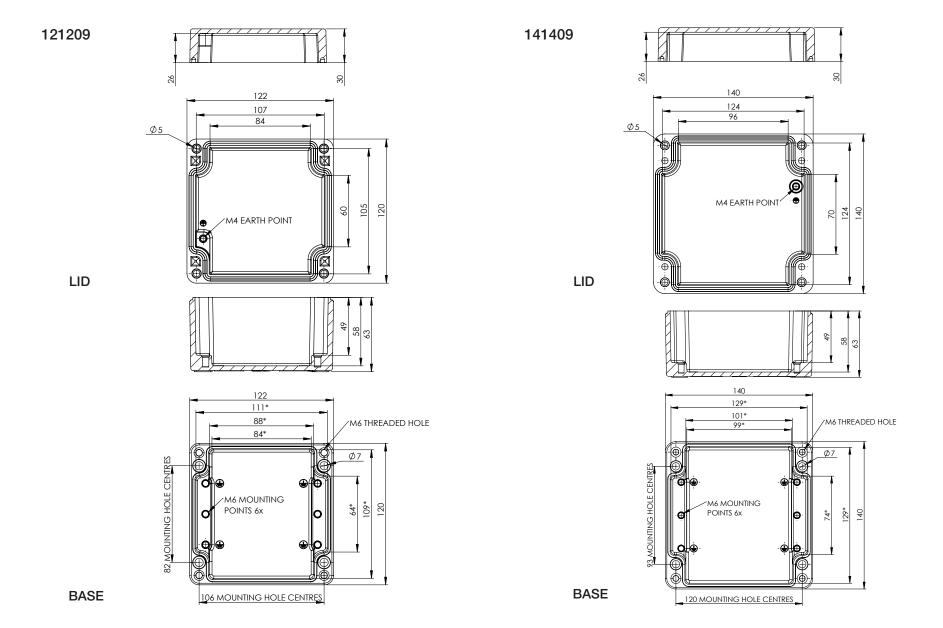
\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT





# Corrosion & Impact Resistant Enclosure Dimensions - 121209 & 141409

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT



# IP66 Polycarbonate and ABS Enclosures



Ideal when a cost effective or lightweight enclosure is required with ingress protection

Manufactured from high-grade polycarbonate or ABS, these enclosures are ideal when the weight of a metal cannot be supported, if the project budget is stretched or if electrical arching concerns are raised. They are available in 22 sizes, with a multitude of beneficial properties including good resistance



- Lightweight
- Cost effective
- Good oil resistance
- High impact resistance
- Wide operating temperature range (Polycarbonate)
- Available with a translucent lid
- Can be customised in our UK factory, see page 8 for more details

For specification, see page 51 (Polycarbonate) and 52 (ABS) See pages 53 – 63 for dimensions

	Box Size (	(mm)	Ordei	r Code		
Box Code	PCB Guide	L	W	Н	Polycarbonate	ABS
050503	N	52	50	35	477-050503A-66	478-050503A-66
060503	N	65	50	35	477-060503A-66	478-060503A-66
080805	N	82	80	55	477-080805A-66	478-080805A-66
080808	080808 N		80	85	477-080808A-66	478-080808A-66
120805	120805 N		80	55	477-120805A-66	478-120805A-66
120808	N	120	80	85	477-120808A-66	478-120808A-66
121205	N	122	120	55	477-121205A-66	478-121205A-66
121208	N	122	120	85	477-121208A-66	478-121208A-66
160805	N	160	80	55	477-160805A-66	478-160805A-66
160808	N	160	80	85	477-160808A-66	478-160808A-66
161209	N	160	120	90	477-161209A-66	478-161209A-66

	Box Size (	mm)	Order	Code		
Box Code	e PCB Guide L W		W	Н	Polycarbonate	ABS
201207	N	200	120	75	477-201207A-66	478-201207A-66
201209	N	200	120	90	477-201209A-66	478-201209A-66
201507	N	200	150	75	477-201507A-66	478-201507A-66
241210	N	240	120	100	477-241210A-66	478-241210A-66
241609	N	240	160	90	477-241609A-66	478-241609A-66
241612	N	240	160	120	477-241612A-66	478-241612A-66
251609	N	250	160	90	477-251609A-66	478-251609A-66
251612	N	250	160	120	477-251612A-66	478-251612A-66
302308	N	300	230	85	477-302308A-66	478-302308A-66
302311	N	300	230	110	477-302311A-66	478-302311A-66
362015	N	360	200	150	477-362015A-66	478-362015A-66

# IP66 Polycarbonate Enclosures - Material Specification

Material: Enclosure RAL Colour: Operating Temperature : Standard PUR seal: Enclosure IP Rating:	Polycarbonate RAL 7035 (light grey) -40°C to +120°C -40°C to +100°C IP66 - DIN EN 60529	Optional silicor	ne Seal: -60°C to	+130°C	
Density Impact Resistance Toughness Tensile Strength Elongation of break Modulus of elasticity (bend test) Flexural stress at given strain Flammability Volume Resitivity Surface Resistance Dielectric Strength Thermal Conductivity (20°C) UL Label on demand CSA label on demand	DIN 53479 DIN 53453 DIN 53453 DIN 53455 DIN 53455 DIN 53457 DIN 53452 UL 94 DIN 53482 DIN 53482 DIN 53482 DIN 53481 DIN 52612	g/cm³ mJ/mm² MJ/mm² N/mm² % N/mm² N/mm² N/mm² Class Ohms x cm Ohms x cm kV/mm	1.2 65 20 65 90 23000 95 V 2 10 <sup>15</sup> ≥ 10 <sup>15</sup> 25-40 0.21 Yes	Acetone Ammonia Brake Fluid Butane Diesel Oil Acetic Acid Freon 113 Fuel Oil Hydraulic Oil Methanol Lactic Acid Mineral Oils Engine Oils Sodium Chloride Nitric Acid Hydrochloric Acid Lubricating Oil Sulphuric Acid Detergent Citric Acid	- - - + 0 10% + - + - + + + + + + 50% + 10%

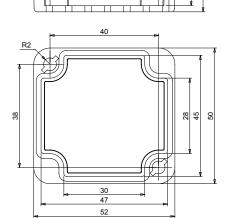
# IP66 ABS Enclosures - Material Specification

Material: Enclosure RAL Colour: Operating Temperature : Standard PUR seal: Enclosure IP Rating:	ABS RAL 7035 (light grey) -40°C to +80°C -40°C to +100°C IP66 - DIN EN 60529				
Density Impact Resistance Toughness Tensile Strength Elongation of break Modulus of elasticity (bend test) Flexural stress at given strain Flammability Volume Resitivity Surface Resistance Dielectric Strength Thermal Conductivity (20°C) UL Label on demand CSA label on demand	DIN 53479 DIN 53453 DIN 53453 DIN 53455 DIN 53455 DIN 53457 DIN 53452 UL 94 DIN 53482 DIN 53482 DIN 53481 DIN 52612	g/cm³ mJ/mm² mJ/mm² N/mm² % N/mm² N/mm² Class Ohms x cm Ohms x cm kV/mm W/mK	1.05 60 10 43 20 21000 90 HB 10 <sup>13</sup> 4 x 10 <sup>14</sup> 24 0.18 No	Acetone Ammonia Brake Fluid Butane Diesel Oil Acetic Acid Freon 113 Fuel Oil Hydraulic Oil Methanol Lactic Acid Mineral Oils Engine Oils Sodium Chloride Nitric Acid Hydrochloric Acid Lubricating Oil Sulphuric Acid Detergent Citric Acid	25% ° + + 25% - ° Δ + 80% + + - ° Δ

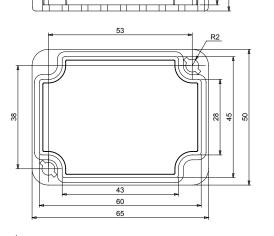
Polycarbonate and ABS Enclosure Dimensions - 050503 & 060503

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

050503

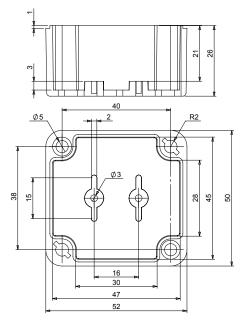


060503

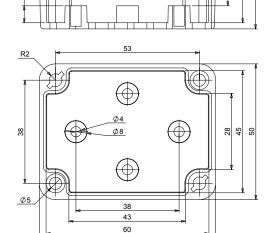


LID

**BASE** 



LID



IP54 Seneral

IP66 General

General

EMI/RFI General

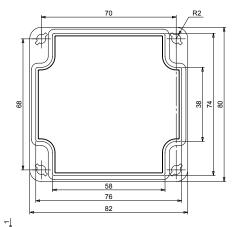
# Polycarbonate and ABS Enclosure Dimensions - 080805 & 080808

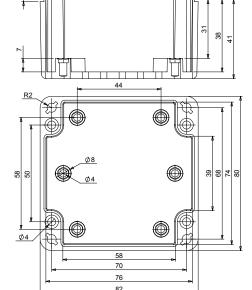
\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

080805

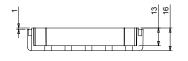
LID





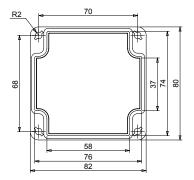


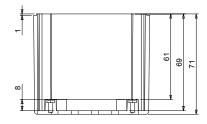
080808

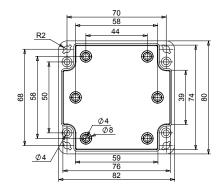


LID

**BASE** 

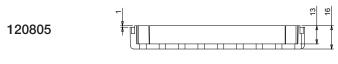






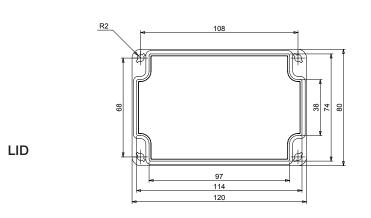
Polycarbonate and ABS Enclosure Dimensions - 120805 & 120808

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

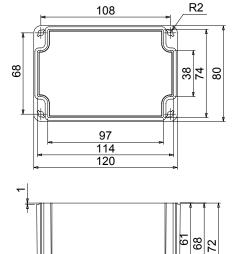


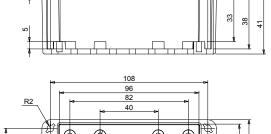
120808

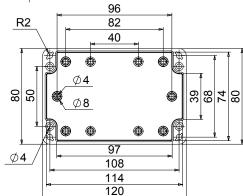


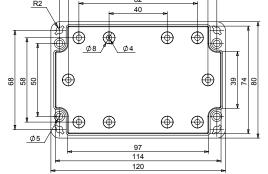


LID









**BASE** 

IP54 ieneral

IP66 Jeneral

IP68 General

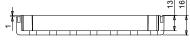
# Polycarbonate and ABS Enclosure Dimensions - 121205 & 121208

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

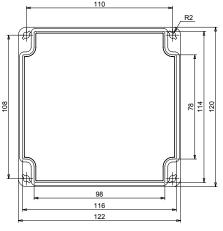
121205



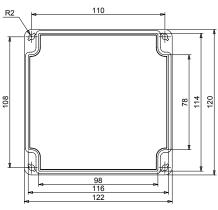
121208

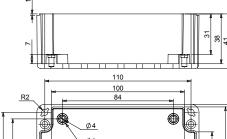


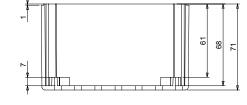
LID

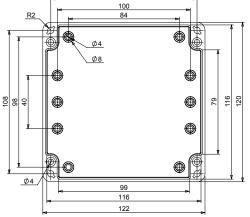


LID

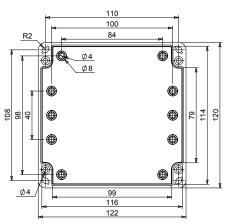








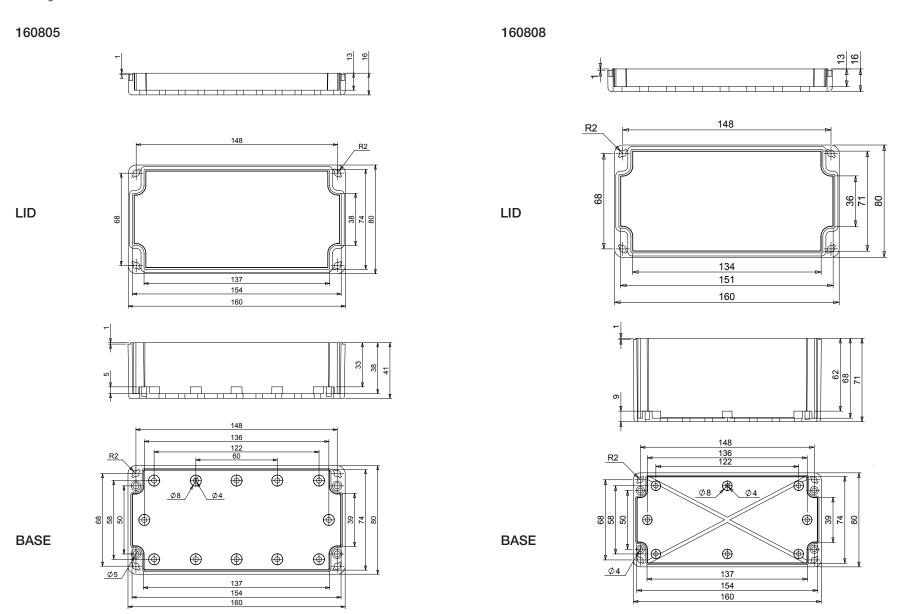
BASE



56

Polycarbonate and ABS Enclosure Dimensions - 160805 & 160808

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT



IP54 seneral

IP66 General

# Polycarbonate and ABS Enclosure Dimensions - 161209 & 201207

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

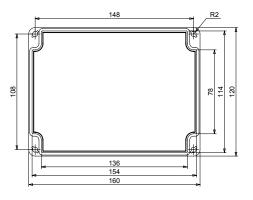
161209



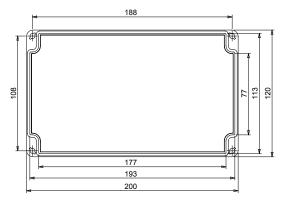
201207



LID



LID

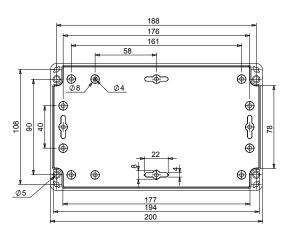


148 136 120

> 137 154 160

28 8 9 19

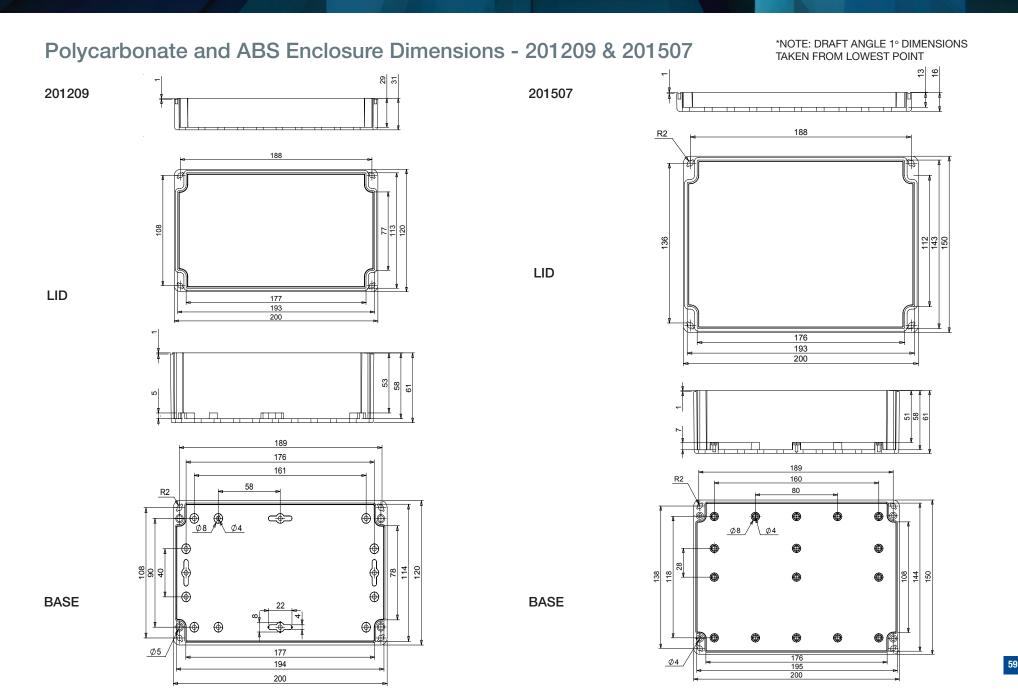
BASE



**BASE** 

91 88

58



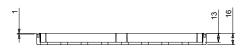
# Polycarbonate and ABS Enclosure Dimensions - 241210 & 241609

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

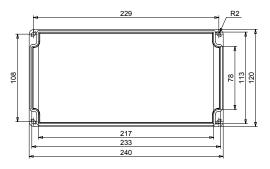
241210



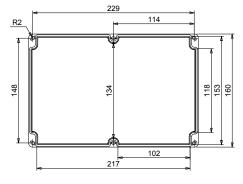
241609

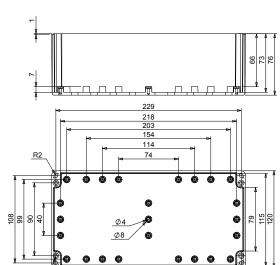


LID



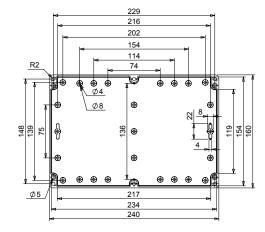
LID





217 234 240





BASE

60

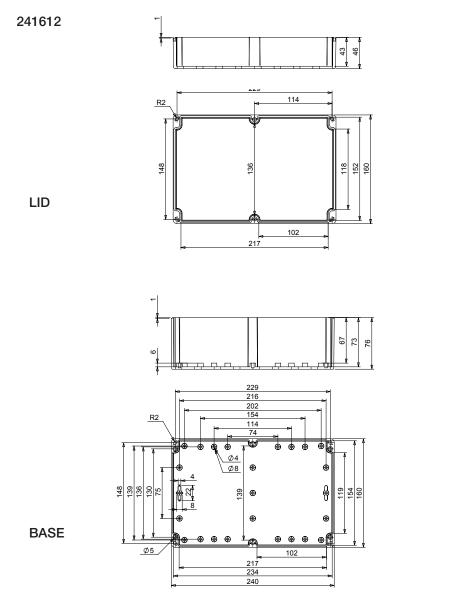
Polycarbonate and ABS Enclosure Dimensions - 241612 & 251609

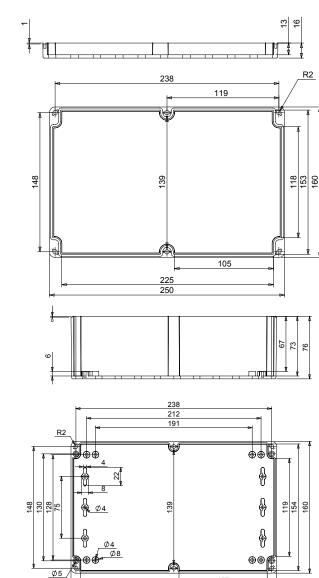
251609

LID

**BASE** 

\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT





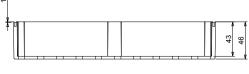
227 250

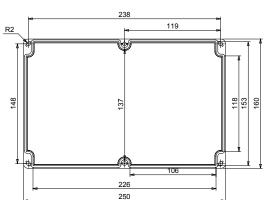
# Polycarbonate and ABS Enclosure Dimensions - 251612 & 302308

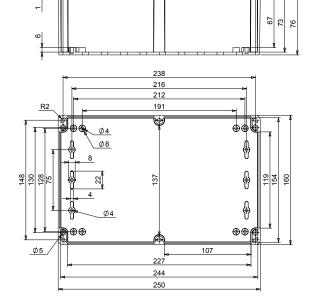
\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

251612

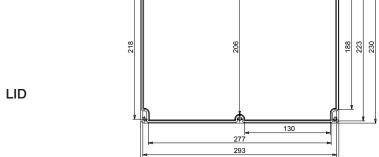
LID

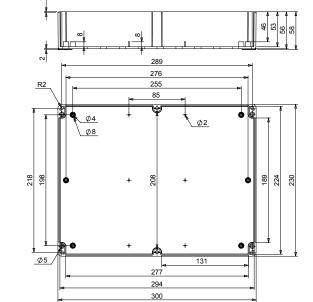






302308

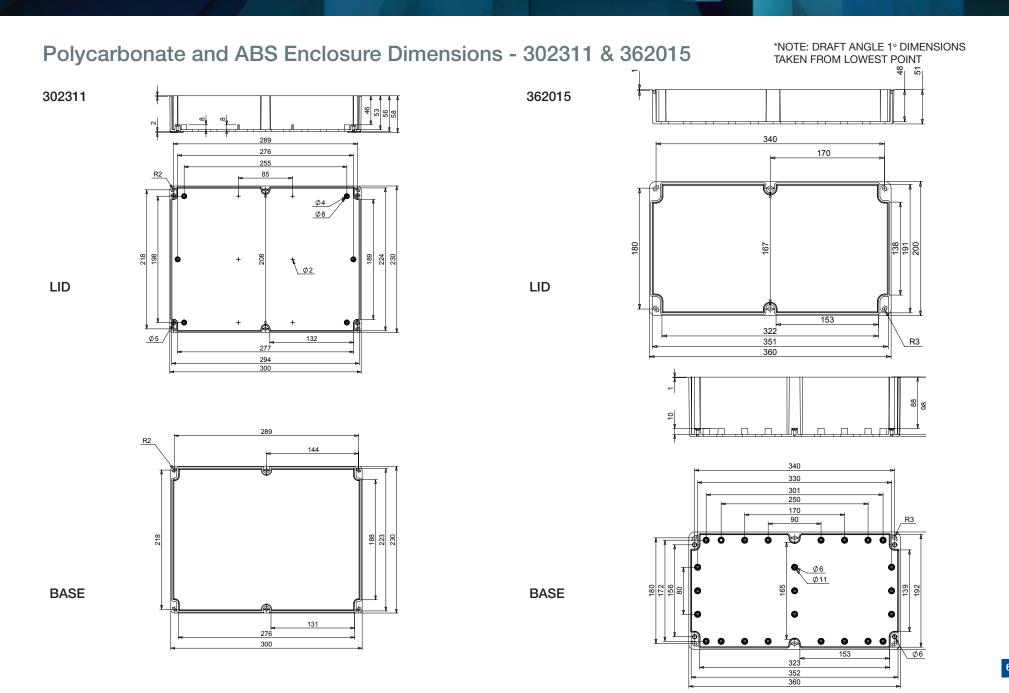




**BASE** 



62



# General Purpose ABS Enclosures



Ideal for light duty applications

Choose ABS enclosures for a lightweight and low cost enclosure solution. They are an excellent option for applications in light duty environments where ingress protection is not a priority. They are available in three sizes and 12 colours, including clear for an aesthetically pleasing product.



- Injection moulded from impact resistant ABS
- Lightweight and low cost
- Available in 12 colours
- Easy to machine
- RoHS Compliant
- Can be customised in our UK factory, see page 8 for more details
   See page 65 for technical drawings

	Box Size (	mm)	Order Code	Finish		
<b>Box Code</b>	PCB Guide	L	W	Н	Part Number	Colours
0020	N	112	62	31	479-0020-*	Clear, Black, Blue, Brown,
0140	N	76	51	28	479-0140-*	Green, Red, White, Yellow,
0160	N	101	77	40	479-0160-*	Purple, Grey, Orange, Cream

\*Code Suffix: Clear = 0, Black = 1, Blue = 2, Brown = 3, Green = 4, Red = 5, White = 6, Yellow = 7, Purple = 8, Grey = 9, Orange = 10, Cream = 11



## **Custom Services**

- Machining
   Painting

Save time and cut costs with our in-house machining service - See page 8 for full details



Technical Assistance Any questions? Call +44 (0)1724 273206

## **Materials:**

- ABS Various Grades
- ABS/Polycarbonate Blend
- PET/Polycarbonate Blend
- Nylon 6/ 66 GF/ UF
- Nylon Trogamid

- PPS Forton GF
- Noryl GF/UF Blend
- Polycarbonate GF/UF
- Desmopan TPU (Rubber)
- Polypropylene GF + Carbon
- Special Blend Flexible PVC's

# Plastic

# **General Purpose ABS Enclosure Dimensions**

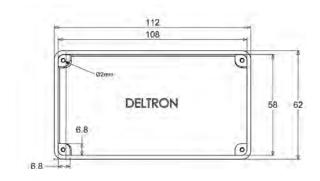
\*NOTE: DRAFT ANGLE 1° DIMENSIONS TAKEN FROM LOWEST POINT

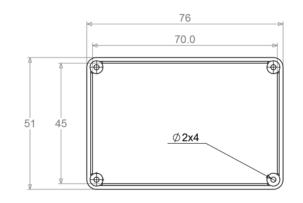
0020 0140 0160

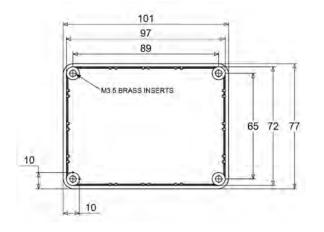


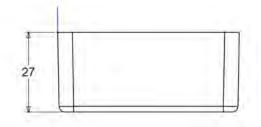


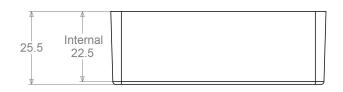
















# **IP Ratings Guide**

The first digit on an IP rating determines the level of protection against solid objects. The second digit is the level of protection against water. (Ingress Protection to BS EN 60529:1992)

## 1st digit - protection against solid objects

4	0	No protection/No test required
<u></u>	1	Protected against objects greater than 50mm diameter
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	Protected against objects greater than 12.5mm diameter such as a finger
1+	3	Protected against objects greater than 2.5mm
1	4	Protected against objects greater than 1.0mm such as wire
•	5	Ingress of dust is not totally prevented but dust does not enter in harmful quantities to interfere with the correct operation or impair safety
•	6	No ingress of dust permitted

## 2nd digit - protection against water

0	No protection/No test required			
1	Protected against falling drops of water			
2	Protected against drops falling at 15° in 4 fixed positions			
3	Low pressure spray - similar to shower head at up to 60° from vertical tested using an oscillating tube with an arc of 60° for 10 minutes			
4	Low pressure spray - similar to shower head – as per numeral 3 but 180° for 10 minutes			
5	Medium pressure jet – 6.3mm diameter, similar to garden hose - from any angle for 3 minutes at a distance of 2.5-3 metres			
6	High pressure jet – 12.5mm diameter, similar to fire hose - from any angle for 3 minutes at a distance of 2.5-3 meters			
 7	Immersion - for temporarily immersion in water under set conditions - 1 metre for 30 minute			
8	otected against the effects of continuous immersion in ater, Ingress of water in quantities causing harmful effects all not be possible. Conditions should be more severe than r numeral 7			
 9	Steam clean, high pressure high temp jet wash to DIN40050(German std), extends BS EN 60529:1992			

# **Deltron Enclosures Stockists**

Please visit the website of your local stockist for full information and contact details. If you have any queries, call our sales team on +44 (0)1724 273206.

Europe	/ 6	6	Far East / Asia		
All	Elfa Distralec	www.elfa.se	All	Element14	www.element14.com
Finland	YE International	www.ye.com	China	Shanghai Hang Ou	www.shhangou.com
France	Dicep EMC Electro PJP	www.dicep.com www.electro-pjp.com	Hong Kong Singapore	Birko Electronics Coastal Electronics B&Lee	Email - info@birko.com.hk  www.coastal.com  www.blee.com.sg
Germany	Conrad Klotz	www.conrad.com www.klotz-ais.de	Australasia (1997)		
Ireland	Anglia	www.anglia-live.com	Australia	Element 14 Switches Plus Components	www.element14.com www.switchesplus.com.au
Italy	Elcart	www.elcart.it	New Zealand	Element 14	www.element14.com
Netherlands	Batenburg Elektronica	www.batenburg-elektronica.nl	USA		
	KimLi Mulder Hardenburg	www.kimli.nl www.mulder-hardenburg.com	Mouser Newark		www.mouser.com www.newark.com
Spain	Beltronica	www.beltronica.es	Africa		www.newark.com
Switzerland	CL Electronics www.cl-electronics.com Compona Connector Systems www.compona.com  CP Automation		1	www.cpaltd.net	
UK	Anglia www.anglia-live.com CP Automation www.cpaltd.net		Worldwide  Avnet Abacus		www.avnet-abacus.eu
N. Ireland	Electronic Excellence www.eeltd.co.uk		Farnell Mouser		www.farnell.com www.mouser.com





## **DEM Manufacturing**

Deltron Emcon House Hargreaves Way Sawcliffe Industrial Park Scunthorpe North Lincolnshire DN15 8RF

Tel: +44 (0) 1724 273200 Fax: +44 (0) 1724 280353 Email: sales@dem-uk.com



www.dem-uk.com/deltron-enclosures

Deltron Enclosures is one of four brands of DEM Manufacturing, which also includes Roxburgh EMC, Deltron Components and BES. DEM Manufacturing is a division of Alpha 3 Manufacturing Limited, which also incorporates CCS Electronics, CTL Manufacturing and Tekdata Interconnections Limited (Electromechanical Sub-Contract Manufacturers).















