

1594BD5	5 sets	P.C. card guides for 1594B series
1594CZ25	25 sets	P.C. card guides for 1594C series
1594CD5	5 sets	P.C. card guides for 1594C series
1594DZ25	25 sets	P.C. card guides for 1594D series
1594DD5	5 sets	P.C. card guides for 1594D series
1594EZ25	25 sets	P.C. card guides for 1594E series
1594ED5	5 sets	P.C. card guides for 1594E series

Part Number	Qty per pkg.	Replacement & Accessory Screws	Screw Size
1421J6	6	Self tapping for most metal case series	6-32 philips, nickel plated
1551ATS100	100	Self tapping type for 1551 series	#2 x 3/16" nickel plated
1590MS100	100	Machine type for 1590 (except L-R) series	6-32 x 1/2" nickel plated
1590MS50BK	50	Black machine type for 1590 series	6-32 x 1/2"
1590MS50BU	50	Blue machine type for 1590 series	6-32 x 1/2"
1590MS50GY	50	Grey machine type for 1590 series	6-32 x 1/2"
1591MS100	100	Machine type for 1591 & 1598 series	M3 - 0.5 x 10mm
1591MS100BK	100	Machine type for 1591 & 1598 series (Black)	M3 - 0.5 x 10mm
1591TS100	100	Self tapping type for 1591 "S" series and 1551 series	#4 x 0.5" nickel plated
1591TS100BK	100	Black self tapping type for 1591 "S" series and 1551 series	#4 x 0.5"
1593MS100	100	Self tapping, oval head for 1593 series	#4 x 0.625" (15.9mm)
1594MS100	100	Machine type for 1594,1599B, and 1592 series	M3 - 0.5 x 18mm
1594TS100	100	Self tapping for 1594 & 1599ES "S" series	#4 x 25.4mm (1")
1594WMS100	100	Machine type for 1594 watertight series & 1599E	M3 - 0.5 x 25mm
1595MS100	100	Machine type for 1595 series	M3 - 0.5 x 8mm
1598ATS100	100	Screws for stand-off bosses in 1595, 1598 & 1599 series	#6 x 1/4" (6.4mm)
1598TS100	100	Self tapping for 1598 "S" series	#4 x 5/8"
1599BTS100	100	Self tapping for 1599BS "S" series	#4 x 3/4"
1599HMS100	100	Machine type for 1599H series	M3 - 0.5 x 12mm
1599HTS100	100	Self tapping for 1599HS "S" series	#4 x 1"

Miscellaneous Hardware & Accessories

Part Number	Qty. per pkg.	Hardware Accessories
BH1AAW	1	Battery holder kit for 1 AA cell
BH2AAW	1	Battery holder kit for 2 AA cells
BH1AAAW	1	Battery holder kit for 1 AAA cell
BH2AAAW	1	Battery holder kit for 2 AAA cells
BH3AAAW	1	Battery holder kit for 3 AAA cells
BH4AAAW	1	Battery holder kit for 4 AAA cells
BS61KIT	1	Battery holder kit for 1 - 9V cell
1427KR	1	Key ring kit for 1551 series
1448A20	20	Angles, clips and screws for 1448 rails
1448R6	1	Mounting rails for 1401 & 1458 series
1448R8	1	Mounting rails for 1401 & 1458 series
1448R10	1	Mounting rails for 1401 & 1458 series
1448R12	1	Mounting rails for 1401 & 1458 series
1448R14	1	Mounting rails for 1401 & 1458 series
1591AC	1	Clear plastic lid for 1591A series
1591BC	1	Clear plastic lid for 1591B series
1591CC	1	Clear plastic lid for 1591C series
1591DC	1	Clear plastic lid for 1591D series
1591EC	1	Clear plastic lid for 1591E series
1591GC	1	Clear plastic lid for 1591G series
1591HC	1	Clear plastic lid for 1591H series
1591LC	1	Clear plastic lid for 1591L series
1591SC	1	Clear plastic lid for 1591S series
1591TC	1	Clear plastic lid for 1591T series
1591UC	1	Clear plastic lid for 1591U series
1591VC	1	Clear plastic lid for 1591V series
1591Z6	6	P.C. card adaptors for 1590 (L-R) & 1591 series
1591Z50	50	P.C. card adaptors for 1590 (L-R) & 1591 series
1591Z100	100	P.C. card adaptors for 1590 (L-R) & 1591 series
1592ETG	1	Gasket kit for 1592 "T" case
1592ETM	1	Magnetic 3" pad for rear of 1592 "T" case
1592ETRF	6	Rubber feet for 1592 "T" case
1592ETV	1	Velcro mounting pad for 1592 "T" case
1593PIR10	10	Infrared panels for 1593 series
1594AZ25	25 sets	P.C. card guides for 1594A series
1594AD5	5 sets	P.C. card guides for 1594A series
1594BZ25	25 sets	P.C. card guides for 1594B series

Technical Information

Properties of Plastic Materials							
Property	Units	Test Method	ABS	ABS Flame Retardant	Polystyrene	Poly-carbonate	Fiber Reinforced Polyester
Mechanical Properties							
Tensile strength @ yield	PSI	ASTMD638	5890	5250	3200	10000	6000
Tensile elongation @ break	%	ASTMD638	22	15	50	100	0.5
Tensile modulus	PSI	ASTMD638	290,000	260,000	285,000	810,000	1,600,000
Flexural modulus	PSI	ASTMD790	290,000	260,000	285,000	810,000	1,600,000
Flexural Strength	PSI	ASTMD790	8200	6800	18100	17000	15000
Izon impact (1/8") - notched	FT LB/IN	ASTMD256	4.5	3.9	2.1	16	4.5
Specific gravity - solid	-	ASTMD792	1.04	1.22	1.17	1.2	1.95
Hardness, Rockwell R	R	ASTMD785	100	100	40	118	40
(Bercol Scale)							
Thermal Properties							
Melt index	GM/10-MIN	ASTMD1288	3	4	3	7	-
Heat Deflection Temp @455 KPA	°F(C)	ASTMD648	205(96)	185(85)	188(87)	284(140)	392(200)
Heat Deflection Temp @1820 KPA	°F(C)	ASTMD648	181(83)	165(74)	-	268(131)	-
Vican softening temperature	°F(C)	ASTMD1525	217(103)	190(88)	203(95)	310(154)	-
Flame characteristics	-	UL94	HB	VO	HB	HB	VO
Thermal conductivity	W/M.C	ASTMC177	0.19	-	0.16	0.19	0.001
Electrical Properties							
Specific volume resistance	Ohm/cm	ASTMD257	10 E15	10 E13	10 E16	10 E16	10 E15
Dielectric strength	V/MIL	ASTMD149	140	400	215	160	400
Other Properties							
Water absorbtion	%	ASTMD570	0.3	-	0.1	0.15	0.16
* Material classified 94HB is combustible!							
Values noted above are typical values for reference only. These values may vary between material manufacturers and within normal manufacturing tolerances.							

Resistance of material to different media				
Material	Polystyrene	ABS	Flame Retard.ABS	Poly-carbonate
Gasoline	-	0	0	-
Diesel Oil	-	+	+	0
Sea Water	+	+	+	-
Hydrochloric Acid, 10%	+	+	0	+
Weak Alkaline	+	+	+	-
Strong Alkaline Solution	+	+	+	-
Atmospheric Influences	0	0	0	+
Lactic Acid	+	+	+	+
Acetone	-	-	-	-
Value at room temperature: + = stable, 0 = relatively stable, - = unstable				
Simultaneous exposure to different media may alter the resistive properties of a material! To be safe, it is advisable to test the cases for sufficient resistance to the material under the condition of the specific application.				

Flammability Rating

94 V-0

Test samples are extinguished within 5 seconds average time. None of the test samples burn longer than 10 seconds. No test samples emit burning particles.

94 V-1

Test samples are extinguished within 25 seconds average time. None of the test samples burn longer than 60 seconds. No test samples emit burning particles.

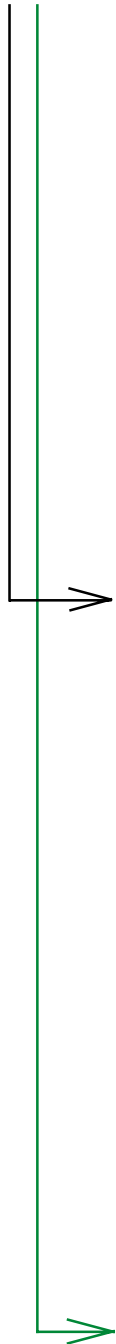
94 V-2

Similar to 94 V-1, except test samples emit burning particles during the test. The test sample is extinguished in all cases mentioned above. If the sample continues to burn after 25 seconds a horizontal test can be performed to meet classification.

Degree of protection - "IP" Codes Information

Example:

IP 55



I.P. Protection Classification		
Degrees of contact prevention and guarding against foreign objects		
1st I.P. Digit	Designation	Explanation
0	No protection	No protection of personnel from direct contact with active or moving parts. No protection from access of solid foreign object.
1	Protection against large foreign bodies	Protection of personnel from accidental large area direct contact with active or internal moving parts (hand contact etc.) but no guard against intentional access to such parts. Protection from access of solid foreign object larger than 12 mm in diameter.
2	Protection against medium foreign bodies	Protection of personnel from finger contact with active or internal moving parts. Protection from access of solid foreign object larger than 12 mm in diameter.
3	Protection against small foreign bodies	Protection of personnel from touching active or internal moving parts with tools, wires or similar foreign objects thicker than 2.5 mm. Protection from access of solid foreign matter larger than 2.5 mm in diameter.
4	Protection against granular foreign bodies	Protection of personnel from touching active or internal moving parts with tools, wires or similar foreign objects thicker than 1 mm.
5	Protection from deposit of dust	Total protection of personnel from touching voltage carrying or internal moving parts. Protection from harmful deposit of dust. Access of dust is not completely prevented.
6	Protection from access of dust	Total protection of personnel from touching voltage carrying or internal moving parts. Protection from access of dust.

I.P. Protection Classification		
Degrees of water protection		
2nd I.P. Digit	Designation	Explanation
0	No protection	No special protection
1	Protection against water dripping vertically	Water drops falling vertically must not have any harmful effect.
2	Protection against water dripping off vertically	Water drops falling at any angle up to 15° from the vertical must not have any harmful effect.
3	Protection against spray water	Water drops falling at any angle up to 15° from the vertical must not have any harmful effect.
4	Protection against splash water	Water splashing against the object from all directions must not have any harmful effect.
5	Protection against jet water	A jet of water nozzled from all directions must not have any harmful effect.
6	Protection against flooding	Water from temporary flooding, such as heavy seas, must not enter in any harmful quantity.
7	Protection in dipped state	If the object is dipped into water under the defined conditions of pressure and time, water must not enter it in any harmful quantity.
8	Protection in submerged state	If the object is submerged in water, water must not enter in any harmful quantity.



Hand Held Display (1592 Series)

Plastic

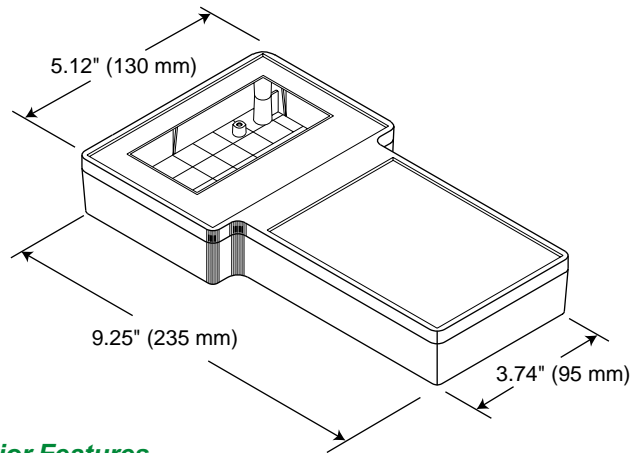
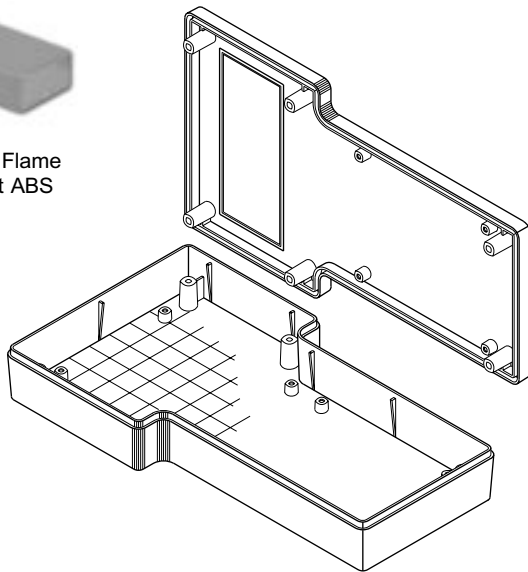


KEY FEATURES

- Ergonomically designed for a comfortable fit into the user's hand.
- Perfect for instrument or mobile data enclosures requiring a keypad and display.
- Available with either a solid display area (1592ETSD) or a versatile opening with a clear lens (1592ETCD).
- Molded in flame retardant ABS plastic, choice of black or grey (material carries a UL flammability rating of 94V-O)
- 1592ETSD offers a solid display area 122 mm x 85 mm (4.8" x 3.4") that will accommodate display boards up to 118 mm x 60 mm (4.6" x 2.37").
- 1592ETCD offers a clear polycarbonate lens 102 mm x 45 mm (4.0" x 1.77") and a plain mylar mask kit allowing for installation of a wide variety of display boards. The lens fits snugly into the case and provides protection from dirt and dust.
- The back of the case has been designed to accept a magnetic strip or velcro mounting tab (see accessories).
- The display area has been insert tooled in order to provide the capability of custom molding a low-cost display area to specific requirements.



Molded in Flame Retardant ABS



Key Pad Area Features

Has been designed to accept membrane keypads up to 87 mm x 119 mm (3.4" x 4.68"). Insert tooled in order to provide the capability of custom molding a low-cost display area to specific requirements.

Rubber Feet Features

Designed in order to fit into the recessed mounting screw areas to provide both a standoff from the work surface as well as additional sealing from dirt and moisture.

Interior Features

A total of eight mounting bosses have been provided in order to facilitate the use of P.C. cards and other components. These bosses have been strategically placed to provide maximum usable space. A light crosshatch has been provided in order to facilitate layout design. The interior of the lid of the 1592ET has been designed with mounting bosses to facilitate use of displays and other components.

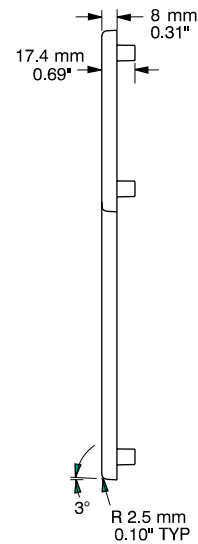
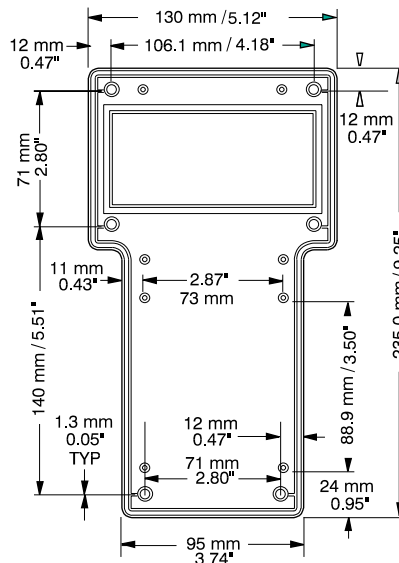
Gasket Features

The 1592ET has been designed to accommodate a gasket, available as accessory part 1592ETG. With proper sealing of the display lens, other modifications and the use of the gasket, the unit will provide protection from dirt, dust and liquids.

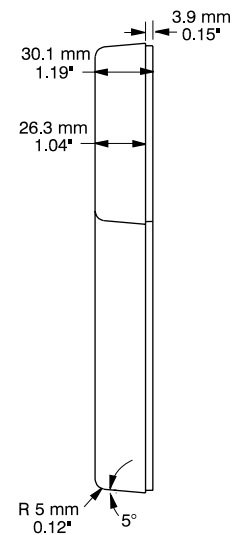
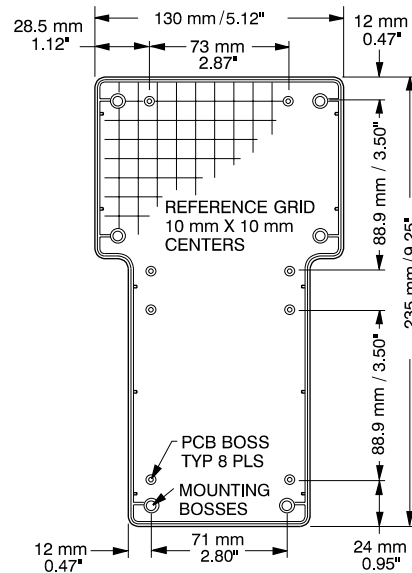
Hand Held Display (1592 Series)

Plastic

Lid (Inside & Edge View)



Base (Inside & Edge View)



Part Number	Color	Description
1592ETSDGY	Grey	Grey case with solid display area
1592ETSDBK	Black	Black case with solid display area
1592ETCDGY	Grey	Grey case with open display insert and clear polycarbonate lens kit
1592ETCDBK	Black	Black case with open display insert and clear polycarbonate lens kit
1592ETG		Gasket kit with 76 cm (30") of gasket (for one unit)
1592ETRF		Rubber feet (package of 6)
1592ETM		Magnetic strip 7.62 cm (3") square
1592ETV		Velcro mounting tab
1594MS100		M3 - 0.5 x 20mm countersunk flat head replacement screws



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