

DTR 52011  
FILE P-1  
5/20/93  
Rev. A

MMP GENERAL PERFORMANCE  
SPECIFICATIONS

INSULATION RESISTANCE

1000 megohms minimum at 25° C

DIELECTRIC WITHSTANDING VOLTAGE

1500 Volts ac (rms) at Sea level

WORKING VOLTAGE

750 Volts ac (rms) ..... size 22 contact  
1000 Volts ac (rms) ..... size 20 contact  
1000 Volts ac (rms) ..... size 16 contact

TEMPERATURE

-55° C to +175° C

CURRENT RATING

5.0 amps ..... size 22 contact  
7.5 amps ..... size 20 contact  
13.0 amps ..... size 16 contact

TEMPERATURE CYCLING

No cracking, chipping, or leaking after 5 test cycles  
from - 55° C to + 175° C.

DURABILITY

No electrical or mechanical defects after 500 cycles of  
mating and unmating.

WATER IMMERSION

Properly wired, overmolded, and mated cable assemblies  
will withstand immersion under two feet of water for  
24 hours without loss of electrical qualities or leakage.

HUMIDITY

Properly wired, overmolded, and mated cable assemblies  
will withstand ten days of 98% relative humidity while  
undergoing temperature cycling between +25° C and +65° C  
without loss of electrical qualities or leakage.

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VIBRATION

Properly wired and mated connector assemblies will withstand 4 hours of 20g peak sinusoidal vibration in both radial and axial directions without loss of electrical continuity in excess of one microsecond.

CONTACT RETENTION

8 lbs. minimum ..... size 22 contact  
10 lbs. minimum ..... size 20 contact  
15 lbs. minimum ..... size 16 contact

CRUSH

Meets requirements of UL 498, sec. 83 (500 lbs. Crush force).

MECHANICAL DROP

Meets or exceeds requirements of UL 498, sec. 85.

CONTACT INSERTION/REMOVAL FORCE

10 lbs. maximum ..... size 22 contact  
20 lbs. maximum ..... size 20 contact  
20 lbs. maximum ..... size 16 contact

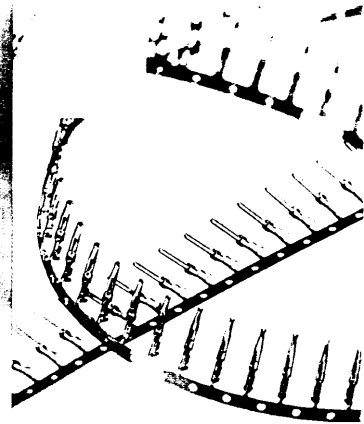
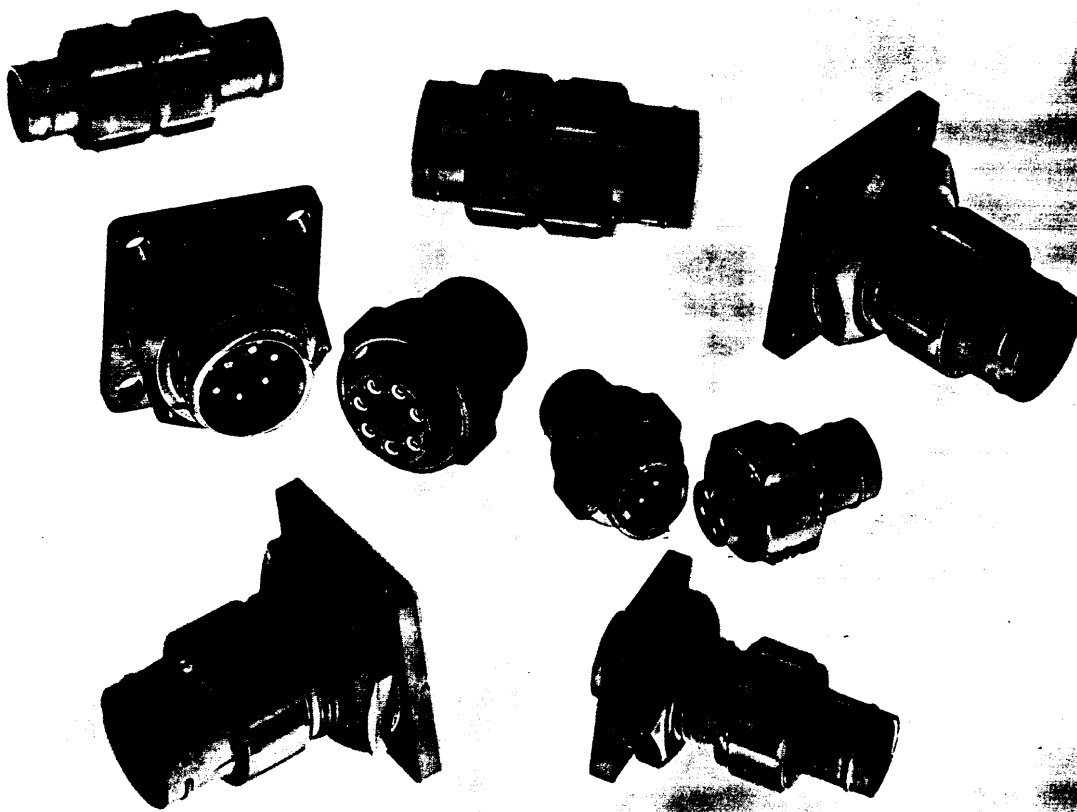
FLUID IMMERSION

No mechanical or electrical defects that will adversely affect the function of the part after being subjected to the following fluids, solvents and chemicals:

SAE 30 Motor Oil	Ethylene Glycol
Trichloroethylene	Unleaded Gasoline
Turpentine	Isopropyl Alcohol
Genesolve	Freon TMC
Glass Cleaner	Methanol
Kerosene	Diesel Fuel
Speedball Power Cleaner	Power Steering Fluid
Brake Fluid	Vinegar
Hydrochloric Acid	

ACCELERATED AGING

Exceeds requirements of UL 498, sec. 65.5.



## CONTACTS IN SERIES

Deutsch has extended the contact range on the IMC by adding a stamped and formed crimp contact to the existing machined crimp/solder solid contacts. Consequently the IMC connector range can now address higher specified applications using the solid machined contact and where standard applications are required the stamped and formed contact offers a lower cost and automated assembly solution.

**NEW**

### CONTACTS FOR VOLUME PRODUCTION

Contacts for volume production

#### GENERAL SPECIFICATION

Mechanical operations: 250 matings MIN  
 Size/Current rating: 20 : 3 Amps MAX  
 Contact resistance: Better than 10mΩ  
 Material: Copper alloy  
 Plating: Contact face — Gold  
 Crimp area — Nickel  
 Socket fingers: No sleeve

- Low cost contacts
- Gold plated contact faces
- Volume, low cost assembly by automatic strip and crimp machines
- Hand crimp tool option
- Supplied in packs of 100, 300 or reel of 10,000

### OPTION 2 HIGHER SPECIFIED CONTACTS

#### GENERAL SPECIFICATION

Mechanical operations: 500 matings MIN  
 Size/Current rating: 22 : 5 Amps  
 20 : 7.5 Amps  
 16 : 13 Amps  
 Contact resistance: Better than 5mΩ  
 Material: Copper alloy  
 Plating: Gold over Nickel  
 Socket fingers: Sleeved Stainless Steel

**option 2**

### machined crimp/solder contacts

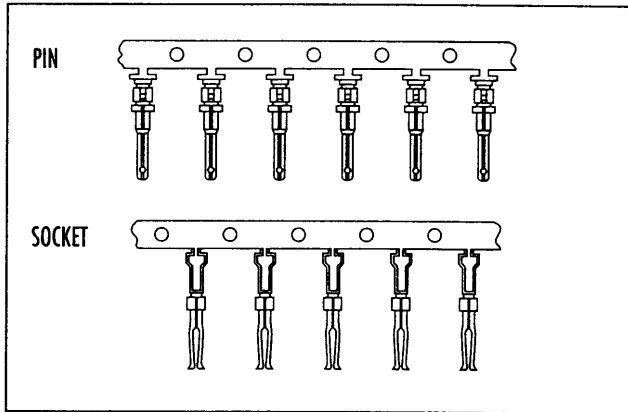
Higher specified contacts

- Very low contact resistance
- Higher current rating
- Gold plated to a Mil type standard
- Sleeved socket fingers



**DEUTSCH**  
 INDUSTRIAL LTD

# OPTION 1 STAMPED AND FORMED CRIMP CONTACTS – FOR VOLUME PRODUCTION

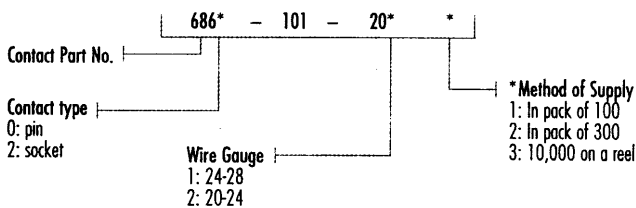


## TOOLING FOR CRIMPING

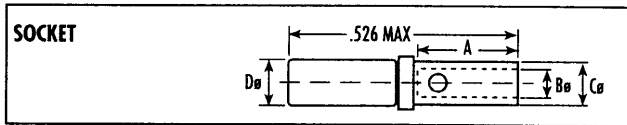
Hand tool Part No 429491 Low volume applications  
 Semi-automatic Part No 429492 Medium volume applications  
 (Hand tool)  
 Automatic crimping: refer to Sales Office for details

Stamped & Formed Contact Part No.	Size & Type	Wire Gauge Range	Recommended Strip Length
6860 -101-201*	# 20 pin	24 to 28	2.2 to 2.6
6860 -101-202*	# 20 pin	20 to 24	2.2 to 2.6
6862 -101-201*	# 20 socket	24 to 28	2.2 to 2.6
6862 -101-202*	# 20 socket	20 to 24	2.2 to 2.6

## HOW TO ORDER STAMPED & FORMED CONTACTS

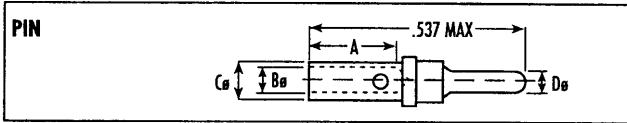


# OPTION 2 CRIMP/SOLDER MACHINED CONTACT – HIGHER SPECIFICATION



## SOCKET CONTACTS

Socket Contact Part No.	Size	A Min	Bø Min	Cø Max	Dø Max	Wire Gauge Range	Recommended Strip Length
6862-201-22278	22	3.58	0.85	1.22	1.50	22, 24, 26	4.06 to 4.83
6862-201-20278	20	5.30	1.17	1.78	1.98	20, 22, 24	5.84 to 6.60
6862-201-16278	16	5.30	1.68	2.62	2.83	16, 18, 20	5.84 to 6.60



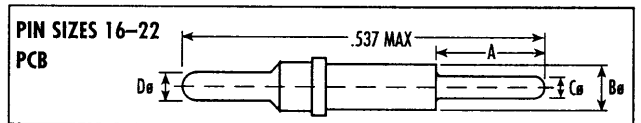
## PIN CONTACTS

Pin Contact Part No.	Size	A Min	Bø Min	Cø Max	Dø Max	Wire Gauge Range	Recommended Strip Length
6860-201-22278	22	3.68	0.85	1.22	0.762	22, 24, 26	4.06 to 4.83
6860-201-20278	20	5.31	1.17	1.78	1.016	20, 22, 24	5.84 to 6.60
6860-201-16278	16	5.31	1.68	2.62	1.588	16, 18, 20	5.84 to 6.60

Note: All dimensions in millimetres

## TOOLING FOR CRIMPING

Hand tool Part No Tool Frame Positioner  
 Contact sizes 16 & 20 AF8 TH163  
 Contact sizes 22 MH860 86-5



## EXTENDED PIN/PCB CONTACTS

Contact Part No. PCB	Size	A Min	Bø Min	Cø Max	Dø Max
6860-202-22278	22	5.61	1.22	0.76	0.762
6860-202-20278	20	5.61	1.78	1.02	1.016
6860-202-16278	16	5.61	2.62	3.81	1.588



A step ahead in technology

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# imc....Circular Industrial Micro Connector

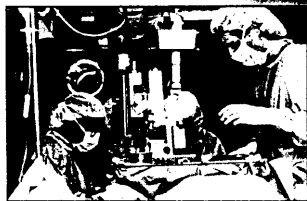
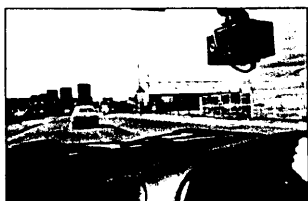


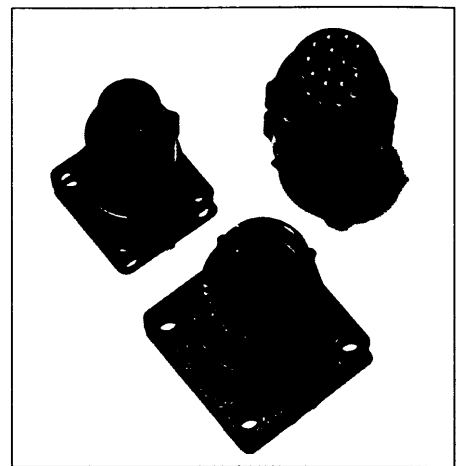
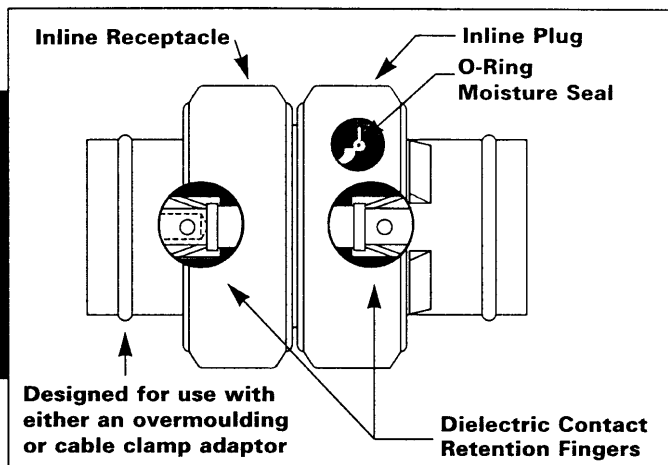
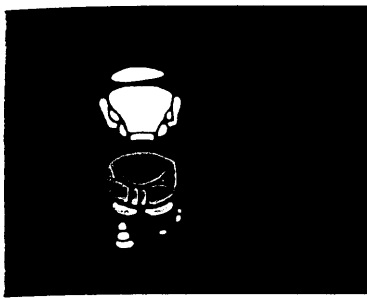
## Deutsch company profile

English	Sveaege	Deutsch
<p>Deutsch Ltd., with over thirty years experience, is a world leader in the supply of high quality electrical and electronic components. From our UK facilities in East Grinstead and Hastings, we offer unrivalled expertise in the design and manufacture of electrical and fibre optic connectors, filter products for EMC/RFI applications, hermetically sealed relays and specialised electronics. The breadth of our experience and knowledge allows us to address the requirements of customers from industrial instrumentation and process control through to aerospace and defence markets.</p>	<p>Deutsch Ltd., med över trettio års erfarenhet, är världsledande i tillverkningen av högkvalitativa elektriska och elektroniska komponenter. Från våra anläggningar i East Grinstead och Hastings i Storbritannien erbjuder vi oöverträffad expertkunskap vid konstruktion och tillverkning av elektriska och fibreoptiska kontakter, filter för EMC/RFI-tillämpningar, hermetiskt tätade reläer samt specialiserad elektronik. Bredden på vårt kunnande gör det möjligt för oss att möta de krav som kunder inom allt från industriell instrumentering och processkontroll till rymd- och försvarsmarknaden ställer.</p>	<p>Deutsch Ltd., ist mit über dreißig Jahren Erfahrung ein weltführender Lieferant von hochwertigen elektrischen und elektronischen Bauteilen. In unseren Werken in East Grinstead und Hastings, Großbritannien, verfügen wir über unübertroffene Sachkenntnisse in der Konstruktion und Herstellung elektrischer und optischer Steckverbindungen sowie Filterprodukte für EMV-Anwendungen, luftdicht verschlossene Relais und Spezialelektronik. Aufgrund unserer umfassenden Erfahrungen und Fachwissen können wir Anforderungen unserer Kunden in Branchen wie Meß- und Regeltechnik bis zu Raumfahrt und Rüstungstechnologie realisieren.</p>

## imc.... market applications

English	Sveaege	Deutsch
<p>The IMC range is suitable for applications where heat, dust, moisture and commonly used industrial oils and chemicals are prevalent. But above all the IMC is ideal for applications where space is at a premium. Typically, the IMC range will meet the requirements of manufacturers of test equipment, industrial sensors, medical diagnostic equipment, industrial instrumentation and process control systems.</p>	<p>IMC-familjen är lämplig för användningsområden där hetta, damm, fukt och industriella oljor och kemikalier är allmänt förekommande. Trots det är IMC-kontakterna framför allt ideala när utrymme kommer i första hand. Karakteristiskt, för IMC-familjen är att den möter de krav som ställs av tillverkare av testutrustning, industrisensorer, medicinsk diagnostikutrustning, industriell instrumentation och system för processkontroll.</p>	<p>Das IMC Sortiment eignet sich für Anwendungen, bei denen Temperatur, Staub, Feuchtigkeit und allgemein, verwendete industrielle Schmiermittel und Chemikalien vorherrschen. Vor allem ist IMC ideal für Anwendungen geeignet, bei denen Platz eine wichtige Rolle spielt. Typisch, für das IMC Sortiment ist, daß es den Anforderungen von Herstellern von Meß- und Prüfgeräten, industriellen Sensoren, medizinischen Diagnosegeräten, Steuerungs- und Verfahrenssystemen entsprechen Kann.</p>





## Features

### English

- Constructed from high temperature resistant composite material Ultem®.
- UL approved.
- Meets or exceeds UL94 Class V-0 flammability requirements.
- Operating temperature -55° to +175°C
- Offers a current rating up to 13A, voltage rating from 750 to 1,000 Vac (rms) and insulation resistance of 1,000MΩ.
- CSA and VDE approval pending.
- Cable adaptor with integral clamp and seal.
- Boot and pro-cap accessories.
- Dielectric withstanding voltage is 1,500 ac (rms) at sea level.
- Sealed against ingress of dust and moisture to IP67.
- Available in 2 shell sizes and 7 contact configurations.
- Gold plated contacts and PCB options.
- Bayonet (type) lock coupling mechanism.

### Sveaege

- Tillverkade av det högttemperaturåliga kompositmaterialet Ultem®.
- UL-godkända.
- Uppnår eller överträffar eldtålighetskraven enligt UL94 Class V-O.
- Temperaturområde -55° till + 175°C.
- Erbjuder en strömtålighet upp till 13A, spänningstålighet från 750 till 1000V (rms) och en isolationsresistans på 1000 MΩ.
- CSA-och VDE-godkännande söka.
- Kabelinföringar med integrerad avlastning och tätning.
- Tillbehör så som krympslang och skyddskåpor.
- Spänningståligheten för dielektrikum vid havsnivå är 15000 GC (rms).
- Förseglade mot damm och fukt enligt IP67.
- Tillgänglig i två storlekar och sju olika kontaktkonfigurationer.
- Guldpläterade kontakter och kortsaltsalternativ.

### Deutsch

- Hitzebeständiger Verbundwerkstoff Ultem®.
- UL (Underwriters Laboratorien) zugelassen.
- Entspricht oder übertrifft UL 94 Klassifikation. VO Flammbarkeitsbedingungen.
- Arbeitstemperatur - 55° bis + 175°C.
- Stromnennleistung bis zu 13A, Netzspannung von 750 bis 1000 V (rms) und Isolationswiderstand von 1000 MΩ.
- CSA und VDE Zulassung angemeldet.
- Dichter Kabeladapter mit integrierter Befestigungsschelle.
- Formschrumpfteile und Schutzkappen als Zubehör.
- Dielektrische Haltespannung von 15000 GC (rms) Effektivwert in Meereshöhe.
- Staub-und Feuchtigkeitsschutz nach IP67.
- In 2 Gehäusegrößen und 7 Kontaktanordnungen erhältlich.
- Vergoldete Crimp-/Lötkontakte und Leiterplattenkontakte lieferbar.

## Benefits

### English

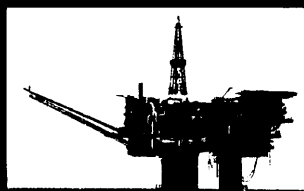
- Engineered, high strength composite housing for rugged, high temperature applications.
- Moisture resistant and environmentally sealed in the mated condition with boots or adaptors.
- Cable adaptor provides superior strain relief.
- A quarter turn lock and visual alignment allows quick mating and unmating.
- Positive locking dielectric contact retention.
- Flexi cavity feature permits customised pin and socket configurations for use in either plug or receptacle side.
- Compact design provides significant space saving.
- Can be sterilised, exposed to gamma radiation, auto claving, ethylene oxide and cold sterilants without performance degradation.
- Superior conductivity and high reliability is achieved through gold plated contacts.

### Sveaege

- Specialdesignade donhus i extra starkt kompositmaterial för användning i svåra miljöer vid höga temperaturer.
- Fukt- och miljötåta i knotakterat tillstånd med inkapslade kablar eller införingar.
- Kabelinföringen ger överlägsen dragavlastning.
- Kvartsvarvs snabbblåsning och visuell centrerung tillåter snabb in-och urkoppling.
- Helt säker låsning av ihopkopplingen av isolatorerna.
- Flexibla insatser tillåter kund Anpassade stift-respektive hylskonfigurationer för antingen propp eller tag.
- Kompakt utförande ger betydande platsbesparing.
- Kan steriliseras, utsätts för gammastrålning, autoklav, etylenoxid, och kallsteriliseringssämnen utan prestandaförsämringar.
- Överlägsen ledningförmåga och hög tillförlitlighetsgrad uppnås genom guldpläterade kontakter.

### Deutsch

- Widerstandsfähiges Verbundgehäuse für robuste Hochtemperaturanwendungen.
- Feuchtigkeitssbeständig und im gesteckten Zustand gekapselt, mit Adapter, Formteil oder Verguß.
- Kabeladapter bietet besonderen Leitungsabfang.
- Ein Bajonettverschluß und optische Ausrichtung ermöglichen schnelles Stecken und Entgegenin.
- Positiv formschließende dielektrische Kontaktsicherung.
- Stift- und Buchsenkontakte können beliebig eingesetzt werden.
- Kompaktbauweise bietet bedeutende Platzersparnis.
- Problemlose Sterilisation möglich (Gammabestrahlung, Autoklavbehandlung, Ether und Kaltsterilisationsmitteln).
- Ausgezeichnete Kontakteigenschaften und Zuverlässigkeit werden durch vergoldete Kontakte erreicht.



# Insert Arrangements

## Series 100



2002 Arr.  
2-20 Contacts



2005 Arr.  
3-20 Contacts

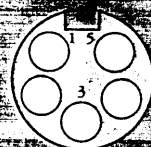


2214 Arr.  
4-22 Contacts

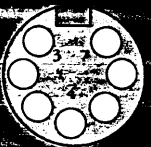
## Series 200



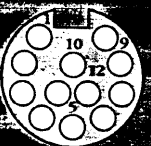
1602 Arr.  
2-16 Contacts



2005 Arr.  
3-20 Contacts

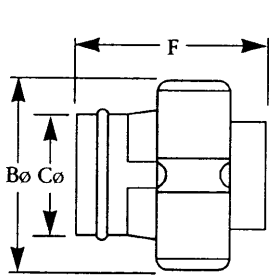


2007 Arr.  
5-20 Contacts

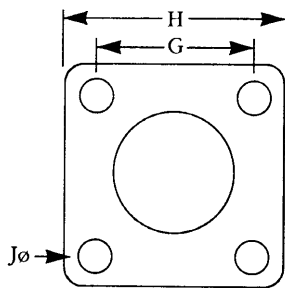


2212 Arr.  
12-22 Contacts

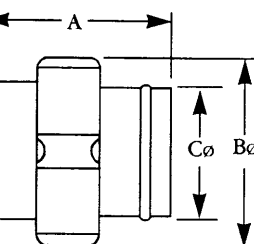
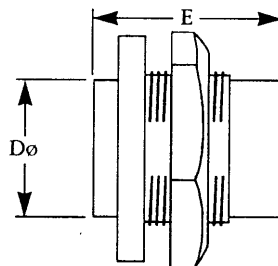
# Plugs and receptacles



Inline Receptacle



Universal Flange Receptacle



Inline Plug

### English

#### Inline Receptacle

Inline receptacles are available for cable to cable terminations.

#### Universal Flange Receptacle

The Universal Flange permits either a square flange or jam nut mount. Panel size maximum thickness 4mm.

#### Inline Plug

Plugs are mated with either the Inline or Universal receptacle.

### Sveage

#### Skarvdon

Skarvdon är tillgängliga för kabel-till-kabel-anslutningar.

#### Tag med universalläns

Universallänsen möjliggör antingen fyrkant- eller enhålsmontage.

#### Propp

Proppar ansluts antingen till skarvdonet eller till universaltaget.

### Deutsch

#### Lineare Steckfassungen

Lineare Steckfassungen für fliegende Anschlüsse erhältlich.

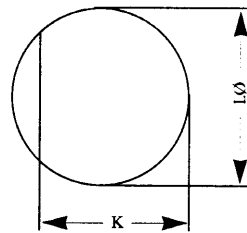
#### Universallflanschsteckfassungen

Der Universallflansch ermöglicht Einbau mit Rechteckflansch oder Zentralbesfestigung.

#### Lineare Dosen

Dosen Können mit linearen oder Universasteckfassungen gesteckt werden.

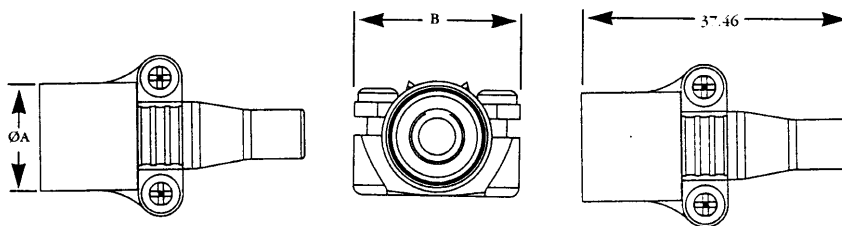
Series	A	Bø	Cø	Dø	E	F	G	H	Jø	K	Lø
100	19.00	15.25	8.60	9.10	19.00	19.00	12.70	17.80	3.00	10.4	11.40
200	19.00	19.00	12.70	13.20	19.00	19.00	18.20	23.80	3.20	15.10	16.10



Recommended Panel Cutout  
(For Single Hole Mounting)

# Accessories

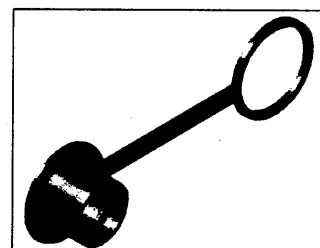
## Adaptor



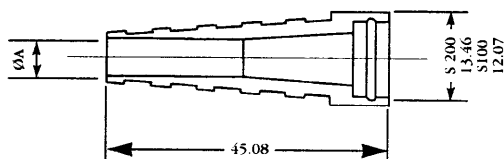
### Adaptor dimensions

	100	200
ØA	11.17	15.24
B	16.76	22.86

## Pro Caps



## Boot



Part No.	øA
<b>Series 100</b>	
6810-204-1001*-200	5.08
<b>Series 200</b>	
6810-201-2001*-105	2.67
6810-201-2001*-125	3.17
6810-201-2001*-120	3.05
6810-201-2001*-140	3.56
6810-201-2001*-250	6.35
6810-201-2001*-165	4.19

## Recommended boot adhesive.

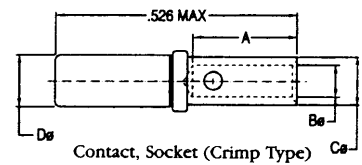
It is recommended that an adhesive is used when fitting the boot. For best results use Raychem's S1125.

## Boot materials

1. PVC 8804fr
2. Santoprene 101-73
3. Santoprene 101-63

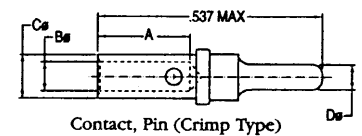
# Contact Part Numbers, Dimension and Tools

## Socket Contacts



Socket Contact Part Numbers	Size	A Min.	Bø Min.	Cø Max.	Dø Max.	Wire Gauge Range	Recommended Strip Length	Insertion/Removal Tool
6862-201-22278	22	3.58	0.85	1.22	1.50	22,24,26	4.06 To 4.83	6757-201-2201
6862-201-20278	20	5.30	1.17	1.78	1.98	20,22,24	5.84 To 6.60	6757-201-2001
6862-201-16278	16	5.30	1.68	2.62	2.83	16,18,20	5.84 To 6.60	6757-201-1601

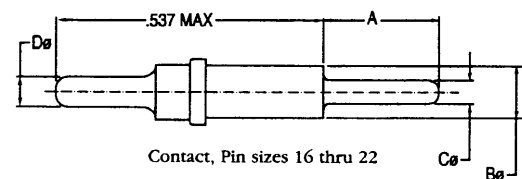
## Pin Contacts



Pin Contact Part Numbers	Size	A Min.	Bø Min.	Cø Max.	Dø	Wire Gauge Range	Recommended Strip Length	Insertion/Removal Tool
6860-201-22278	22	3.68	0.85	1.22	0.762	22,24,26	4.06 To 4.83	6757-201-2201
6860-201-20278	20	5.31	1.17	1.78	1.016	20,22,24	5.84 To 6.60	6757-201-2001
6860-201-16278	16	5.31	1.68	2.62	1.588	16,18,20	5.84 To 6.60	6757-201-1601

Contact Part Numbers	Size	Aø	Bø	Cø	Dø
6860-202-22278	22	5.61	1.22	0.76	0.762
6860-202-20278	20	5.61	1.78	1.02	1.016
6860-202-16278	16	5.61	2.62	3.81	1.588

## Extended Pin/PCB Contacts



Note: Contact is designed to extend 3.17mm beyond rear of receptacle of shell.

- For socket connectors with extended tails consult factory.
- Material. Contact body-copper alloy.
- Finish. Gold over nickel plate.

## Contact Information

Contact Size	Pin Diameter	Wire Gage	Current Ratings	Voltage Ratings
22	0.76	22,24,26	5 Amps	750 Vac (rms)
20	1.01	20,22,24	7.5 Amps	1000 Vac (rms)
16	1.59	12,18,20	13 Amps	1000Vac (rms)
Insulation Resistance 1000 megohms				

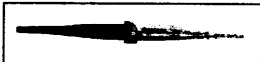







# Contacts

English	Sveaege	Deutsch
Suitable for crimped or soldered terminations.	Lämpade för press- eller lödanslutning för tillförlitlighet och kontrollbarhet.	Crimp- und lötbare Kontakte.
Insertable and removable for easy assembly and maintenance.	Stift och hylsor är lätta att montera och demontera vilket underlättar kontaktering och underhåll.	Die Kontakte sind ein- bzw ausbaubar.
Gold-plated copper alloy for high reliability, extended life and superior conductivity.	Guldpläterad kopparlegering för hög tillförlitlighet, utökad livslängd samt överlägsen ledningsförmåga.	Durch vergoldete Kupferlegierung wird besondere Zuverlässigkeit, verlängerte Haltbarkeit und ausgezeichnete Leitfähigkeit erreicht.
Closed entry sockets for proper alignment and resistance to probe damage.	Självcentrerande hylsor för säker anslutning och som skydd mot insticksskador.	Durch geschützte Einsteckbuchsen korrekte Ausrichtung und Widerstandsfähigkeit gegen Meßfühlerschäden.
2.3mm engagement for electrical circuit integrity.	2,3 mm elektrisk anslutning för kontaktsäkerhet.	Kontaktberührung auf 2,3 mm Länge gewährleistet optimalen elektrischen Übergang.
Extended pins are available for PCB applications.	Konstruerade för automatiserad pressutrustning och montering med kommersiellt tillgängliga verktyg.	Verlängerte Stifte für Leiterplatten-Anwendung erhältlich.
	Förlängda stift finns tillgängliga för kretskortsapplikationer.	

## Tools

### Contact Insertion and Extraction

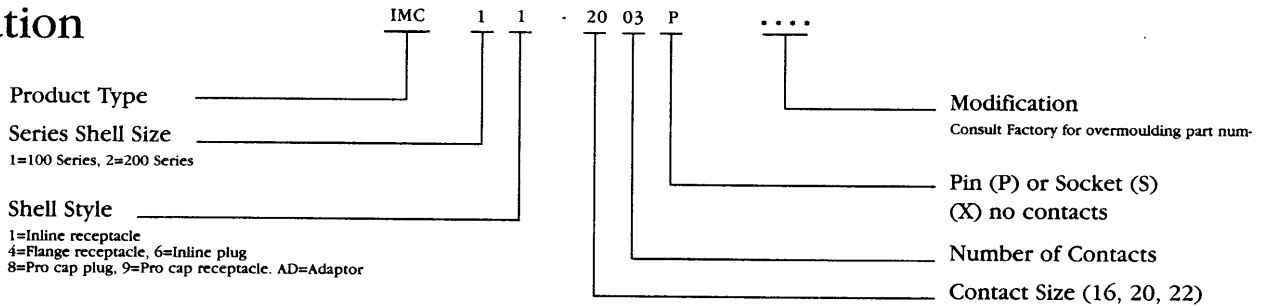
	Insert	Extract	
Size 16			6757-201-1601
Size 20			6757-201-2001
Size 22			6757-201-2201

### Crimp Tools

Daniels Manufacturing Corporation

Contact Sizes	Tool Frame	Positioners
16,20	AF8	TH163
22	MH860	86-5

### Ordering Information



### Ordering Examples:

Plug with contacts = IMC26 - 2212S  
 Receptacle without contacts - IMC11 - 2003X  
 Pro-cap = IMC28  
 Adaptor = IMC1AD



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