

Din 43650 Connectors, Assemblies & Distribution Systems for Control Automation



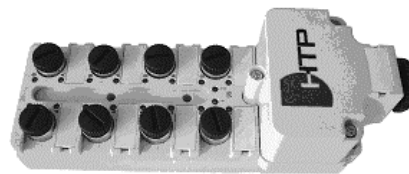
DIN 43650
Molded Assemblies



DIN 43650
Connectors



DIN 43650
Connectors with Circuits



Distribution Boxes



NORSTAT INC.

DIN 43650 Molded Cable Assemblies

For Solenoid Valve Applications with PVC Cable

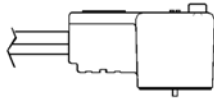
Construction Features

Internal housing provides extra cable strain relief in addition to the molding process.

Removable label plate provides area for marking on all assemblies.

Captive center screw offers easier installation and prevents loss in shipment and storage.

Large variety of cable types and sizes offered, including PVC, PUR and shielded cable.



Center screw with gasket prevents infiltration from top of connector

Rugged post molded impact resistant connector offers protection of up to IP 67.

Sealed internal housing prevents degradation of components and cable in molding.

Recessed LED helps prevent impact damage and exposure of LED leads.

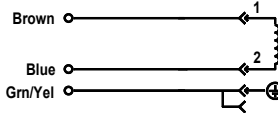
AVAILABLE INDIVIDUALLY PACKAGED WITH GASKET AND SCREW ENCLOSED.

DIN 43560 A	Industrial Form B	DIN 43650 B	Industrial Form C	DIN 43650 C
18mm	11mm	10mm	8mm	9.4mm
Dual Ground	Ground Up	Ground Up	Dual Ground	Dual Ground

Circuit

Length

All Voltages
Without Added Components



3M (9.8')

Replaces

CG1-N02-000-C02-3

CM1-N02-000-B02-3N

CM2-N02-000-B02-3N

CP1-N02-000-C01-3N

CP2-N02-000-C01-3N

5M (16.4')

Replaces

CG1-N02-000-C02-5N

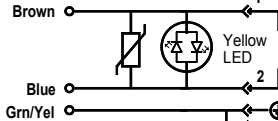
CM1-N02-000-B02-5N

CM2-N02-000-B02-5N

CP1-N02-000-C01-5N

CP2-N02-000-C01-5N

24 VAC/DC
LED & Surge Suppression



3M (9.8')

Replaces

CG1-N02-VL1-C02-3N

CM1-N02-VL1-B02-3N

CM2-N02-VL1-B02-3N

CP1-N02-VL1-C01-3N

CP2-N02-VL1-C01-3N

5M (16.4')

Replaces

CG1-N02-VL1-C02-5N

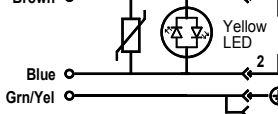
CM1-N02-VL1-B02-5N

CM2-N02-VL1-B02-5N

CP1-N02-VL1-C01-5

CP2-N02-VL1-C01-5N

120 VAC/DC
LED & Surge Suppression



3M (9.8')

Replaces

CG1-N02-VL2-C02-3N

CM1-N02-VL2-B02-3N

CM2-N02-VL2-B02-3N

CP1-N02-VL2-C01-3N

CP2-N02-VL2-C01-3N

5M (16.4')

Replaces

CG1-N02-VL2-C02-5N

CM1-N02-VL2-B02-5N

CM2-N02-VL2-B02-5N

CP1-N02-VL2-C01-5N

CP2-N02-VL2-C01-5N

Protection Rating	- 5° to + 70° C	Max. Current	10A	10A	10A	3A	3A
IP Rate	IP 67	Cable Type	H05VVVF / IEC332-1	H05VVVF / IEC332-1	H05VVVF / IEC332-1	H03VVVF / IEC332-1	H03VVVF / IEC332-1
Color	Black Connector	Conductor Size	18 AWG	18 AWG	18 AWG	20 AWG	20 AWG
Clamping Voltage	24v=42v; 110v=185v	Center Screw	M3 x 28.7mm	M3 x 28.7mm	M3 x 28.7mm	M3 x 21.5	M2.5 x 21.5

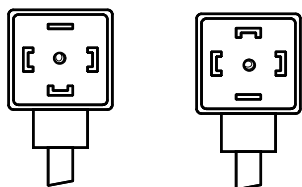
DIN 43650 Molded Assemblies

For Pressure & Filter Switches and Sensors

OPERATION OF DUAL LED

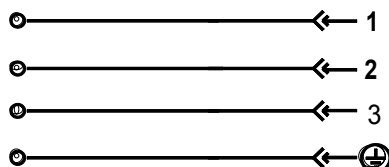
The dual LED circuit used in these assemblies is designed to work without interfering with the control signal from the switch. In order to do this, a separate negative connection is used for the LED.

GROUND POSITION



All Applications

Without Additional Components

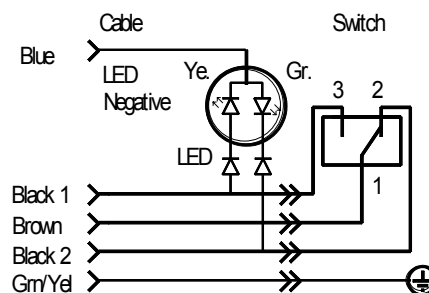


Ground Up

Ground Down

Pressure Switches

With Two LED's

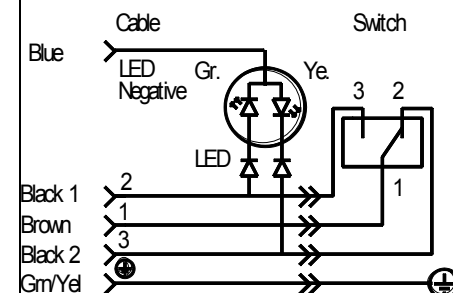


Ground Up

Ground Down

Filter Switches

With Two LED's



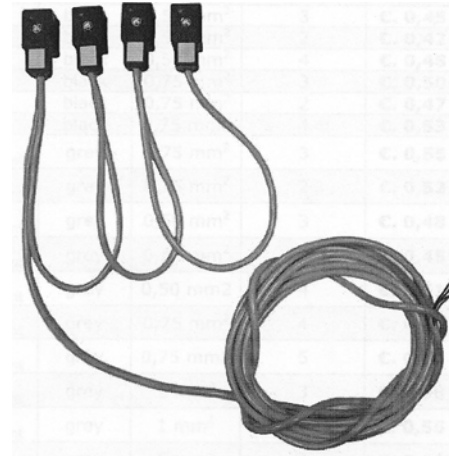
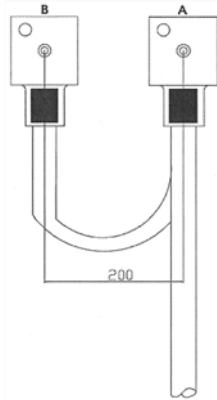
Ground Up

Ground Down

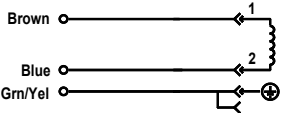
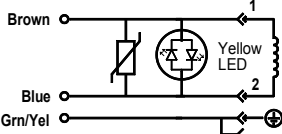
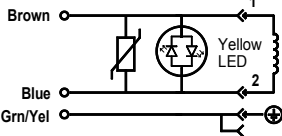
	Length						
All Voltages No Additional Components	3M (9.8')	CG1-NO3-000-B01-3N	CG1-NO3-000-A01-3N				
	5M (16.4')	CG1-NO3-000-B01-5N	CG1-NO3-000-A01-5N				
24 VAC/DC With Dual LED's	3M (9.8')			CG1-NO3-LX1-B01-3N	CG1-NO3-LX1-A01-3N	CG1-NO3-LX6-B01-3N	CG1-NO3-LX6-A01-3N
	5M (16.4')			CG1-NO3-LX1-B01-5N	CG1-NO3-LX1-A01-5N	CG1-NO3-LX6-B01-5N	CG1-NO3-LX6-A01-5N
120 VAC/DC With Dual LED's	3M (9.8')			CG1-NO3-LX2-B01-3N	CG1-NO3-LX2-A01-3N	CG1-NO3-LX6-B01-3N	CG1-NO3-LX6-A01-3N
	5M (16.4')			CG1-NO3-LX2-B01-5N	CG1-NO3-LX2-A01-5N	CG1-NO3-LX6-B01-5N	CG1-NO3-LX6-A01-5N
Temp. Rating	- 5° to + 70° C	Max. Current	10A	10A	10A	3A	3A
IP Rate	IP 67	Cable Type	Black PVC - H05VVF	Black PVC - H05VVF	Black PVC - H05VVF	Black PVC - H03VVF	Black PVC - H03VVF
Color	Black Connector	Conductor Size	18 AWG	18 AWG	18 AWG	20 AWG	20 AWG
Clamping Voltage	NA	Center Screw	M3 x 28.7mm	M3 x 28.7mm	M3 x 28.7mm	M3 x 21.5	M3 x 21.5

DIN 43650 Molded Cable Assemblies

Multiple Headed Assemblies



Standard Main Cable = 3.3' (1M)

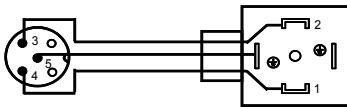
			DIN 43560 A	Industrial Form B	DIN 43650 B	Industrial Form C	DIN 43650 C
			18mm	11mm	10mm	9.4mm	8mm
			Dual Ground	Ground Up	Ground Up	Dual Ground	Dual Ground
Voltage	Circuit	Heads					
All Voltages Without Added Components		2	CG1-D02-000-C02-1	CM1-D02-000-B02-1	CM2-D02-000-B02-1	CP2-D02-000-C02-1	CP2-D02-000-C02-1
		3	CG1-302-000-C02-1	CM1-302-000-B02-1	CM2-302-000-B02-1	CP2-302-000-C02-1	CP2-302-000-C02-1
		4	CG1-402-000-C02-1	CM1-402-000-B02-1	CM2-402-000-B02-1	CP2-402-000-C02-1	CP2-402-000-C02-1
24 VAC/DC LED & Surge Suppression		2	CG1-D02-VL1-C02-1	CM1-D02-VL1-B02-1	CM2-D02-VL1-B02-1	CP2-D02-VL1-C02-1	CP2-D02-VL1-C02-1
		3	CG1-302-VL1-C02-1	CM1-302-VL1-B02-1	CM2-302-VL1-B02-1	CP2-302-VL1-C02-1	CP2-302-VL1-C02-1
		4	CG1-402-VL1-C02-1	CM1-402-VL1-B02-1	CM2-402-VL1-B02-1	CP2-402-VL1-C02-1	CP2-402-VL1-C02-1
120 VAC/DC LED & Surge Suppression		2	CG1-D02-VL2-C02-1	CM1-D02-VL2-B02-1	CM2-D02-VL2-B02-1	CP2-D02-VL2-C02-1	CP2-D02-VL2-C02-1
		3	CG1-302-VL2-C02-1	CM1-302-VL2-B02-1	CM2-302-VL2-B02-1	CP2-302-VL2-C02-1	CP2-302-VL2-C02-1
		4	CG1-402-VL2-C02-1	CM1-402-VL2-B02-1	CM2-402-VL2-B02-1	CP2-402-VL2-C02-1	CP2-402-VL2-C02-1
Temp. Rating	- 5° to + 70° C	Max. Current	10A	10A	10A	3A	3A
IP Rate	IP 67	Cable Type	Black PVC - H05VVF	Black PVC - H05VVF	Black PVC - H05VVF	Black PVC - H03VVF	Black PVC - H03VVF
Color	Black Connector	Conductor Size	18 AWG	18 AWG	18 AWG	20 AWG	20 AWG
Clamping Voltage	24v=42v; 110v=185v	Center Screw	M3 x 28.7mm	M3 x 28.7mm	M3 x 28.7mm	M3 x 21.5	M3 x 21.5

DIN 43650 Molded Cable Assemblies

DIN 43650 to M12 Male Connector



Circuit Drawing



DIN 43560 A	Industrial Form B	DIN 43650 B	Industrial Form C	DIN 43650 C
18mm	11mm	10mm	9.4mm	8mm
Dual Ground	Ground Up	Ground Up	Dual Ground	Dual Ground

	Circuit	Length					
All Voltages Without Added Components		1M (3.2')	12MD3-CG1-N02-000-C02-1	12MD3-CM1-N02-000-B02-1	12MD3-CM2-N02-000-B02-1	12MD3-CP2-N02-000-C01-1	12MD3-CP1-N02-000-C01-1
24 VAC/DC LED & Surge Suppression		1M (3.2')	12MD3-CG1-N02-VL1-C02-1	12MD3-CM1-N02-VL1-B02-1	12MD3-CM2-N02-VL1-B02-1	12MD3-CP2-N02-VL1-C01-1	12MD3-CP1-N02-VL1-C01-1
120 VAC/DC LED & Surge Suppression		1M (3.2')	12MD3-CG1-N02-VL2-C02-1	12MD3-CM1-N02-VL2-B02-1	12MD3-CM2-N02-VL2-B02-1	12MD3-CP2-N02-VL1-C01-1	12MD3-CP1-N02-VL1-C01-1
Temp. Rating	- 5° to + 70° C	Max. Current	10A	10A	10A	3A	3A
IP Rate	IP 67	Cable Type	Black PVC - H05VVF	Black PVC - H05VVF	Black PVC - H05VVF	Black PVC - H03VVF	Black PVC - H03VVF
Color	Black Connector	Conductor Size	18 AWG	18 AWG	18 AWG	20 AWG	20 AWG
Clamping Voltage	24v=42v; 110v=185v	Center Screw	M3 x 28.7mm	M3 x 28.7mm	M3 x 28.7mm	M3 x 21.5	M3 x 21.5



NORSTAT INC.

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DIN 43650 Female Connectors

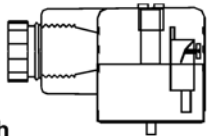
For Solenoid Valve Applications

Construction Features

Knurled gland nut can easily be tightened by hand.

Center screw gasket seals against water entrance.

DIN 43650A available with combination Pg 9/11 cable entry



Screw terminal includes clamping bar which prevents damage to wire conductors.

DIN 43560 A	Industrial Form B	DIN 43650 B	Industrial Form C	DIN 43650 C
18mm	11mm	10mm	9.4mm	8mm

Circuit	Cable Entry	2 Pole + Ground	3 Pole + Ground				
All Voltages Without Added Components 	Pg 7					P2-NZ2-000	P1-NZ2-000
	Pg 9			M1-NS2-000	M2-NS2-000	<i>KB136000B7</i>	<i>KC136000B7</i>
	Pg 9/11	G1-NU2-000	G1-NU3-000	<i>KB132000B9</i>	<i>NA</i>		
	<i>Replaces</i>	<i>KA132000B1</i>	<i>KA042000B1</i>				
	1/2" NPT	G1-NF2-000	G1-NF3-000				
	<i>Replaces</i>	<i>NA</i>	<i>NA</i>				
24 VAC/DC LED & Surge Suppression 	Pg 7					P2-TZ2-VL1	P1-TZ2-VL1
	Pg 9			M1-TS2-VL1	M2-TS2-VL1	<i>KB136V54T7</i>	<i>KC136V54T7</i>
	Pg 9/11	G1-TU2-VL1		<i>KB132V54T9</i>	<i>NA</i>		
	<i>Replaces</i>	<i>KA132V54T1</i>					
	1/2" NPT	G1-TF2-VL1					
120 VAC/DC LED & Surge Suppression 	Pg 7					P2-TZ2-VL2	P1-TZ2-VL2
	Pg 9			M1-TS2-VL2	M2-TS2-VL2	<i>KB136V55T7</i>	<i>KC136V55T7</i>
	Pg 9/11	G1-TU2-VL2		<i>KB132V55T9</i>	<i>NA</i>		
	<i>Replaces</i>	<i>KA132V55T1</i>					
	1/2" NPT	G1-TF2-VL2					
Protection Rating	IP 65 (Assembled)	Max. Current	10A	10A	10A	6A	6A
Contact Resistance	≤ 4 mΩ	Max. Conductor	16 AWG (1.5mm2)	16 AWG (1.5mm2)	16 AWG (1.5mm2)	18 AWG (.75mm2)	18 AWG (.75mm2)
Max Screw Torque	0.5 Nm	Center Screw	M3 x 32.5mm	M3 x 32.5mm	M3 x 32.5mm	M3 x 28.5mm	M2.5 x 28.5mm
Clamping Voltage	24v = 42v; 110v = 185v	Cable Diameters: Pg 7 = 0.15" to 0.23" (4 – 6 mm); Pg 9 = 0.23" to 0.31" (6 – 8 mm); Pg 11 = 0.23" to 0.43" (6 – 11 mm); 1/2"NPT = Supplied without cable gland					



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DIN 43650 Female Connectors

For Solenoid Valve Applications with Special Circuits

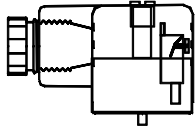
Construction Features

Rugged heavy walled housing with additional thickness at cable gland.

Tab on terminal allows for the option for solder connection.

Unique screw terminal design includes clamping bar to prevent damage to conductors from screw torque.

Extended center tower prevents crimping of wires during installation and housing damage due to over torque of the center screw.



Larger terminal screw for easier installation.

DIN 43560 A	Industrial Form B	DIN 43650 B	Industrial Form C	DIN 43650 C
18mm	11mm	10mm	9.4mm	8mm

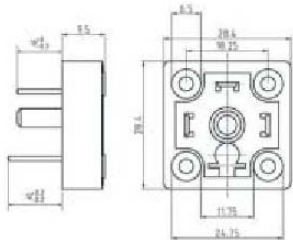
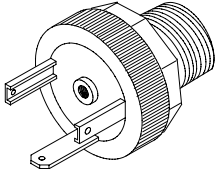
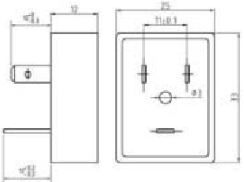
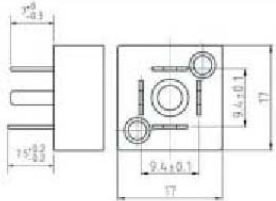
Circuit	Cable Entry					
24V LED Only		Pg 7				P2-TZ2-LO1
		Pg 9	G1-TU2-L01	M1-TS2-L01	M2-TS2-L01	
		Pg 11	G1-TU2-L01			
		1/2" NPT	G1-TF2-L01			
120V LED Only		Pg 7				P2-TZ2-LO2
		Pg 9	G1-TU2-L02	M1-TS2-L02	M2-TS2-L02	
		Pg 11	G1-TU2-L02			
		1/2" NPT	G1-TF2-L02			
24V LED Only		Pg 7				P2-TZ2-DL1
		Pg 9	G1-TU2-DL1	M1-TS2-DL1	M2-TS2-DL1	
		Pg 11	G1-TU2-DL1			
		1/2" NPT	G1-TF2-DL1			
120V LED & Rectifier		Pg 7				
		Pg 9	G1-TU2-RL2			
		Pg 11	G1-TU2-RL2			
		1/2" NPT	G1-TF2-RL2			
Protection Rating	IP 65 (Assembled)	Max. Current	10A	10A	10A	6A
Contact Resistance	≤ 4 mΩ	Max. Conductor	16 AWG (1.5mm2)	16 AWG (1.5mm2)	16 AWG (1.5mm2)	18 AWG (.75mm2)
Max Screw Torque	0.5 Nm	Center Screw	M3 x 32.5mm	M3 x 32.5mm	M3 x 32.5mm	M2.5 x 28.5mm
Clamping Voltage	24v = 42v; 110v = 185v	Cable Diameters: Pg 7 = 0.15" to 0.23" (4 – 6 mm); Pg 9 = 0.23" to 0.31" (6 – 8 mm); Pg 11 = 0.23" to 0.43" (6 – 11 mm); 1/2"NPT = Supplied without cable gland				



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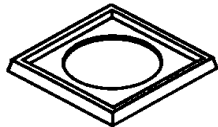
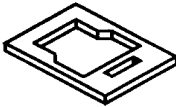
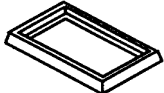
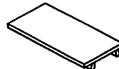
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DIN 43650 Male Connectors

	DIN 43560 A	DIN 43560 A	Industrial Form B	Industrial Form C
	18mm	18mm	11mm	9.4mm
	Panel Mounting	½” NPT Port Mounting	Panel Mounting	Panel Mounting
				
3	BG1-N02-000	GSP-212	BM1-N02-000	BP2-N02-000
4	BG1-N03-000	GSP-312		BP2-N03-000
Connector includes:	4 pcs. M3 x 10 Screws		1 pcs M4 x 15.5 Screw	1 pcs. M3 x 9.6 Screw
	1 pc. M3 x 4.8 Screws		1 pc. M3 x 5	1 pc. Flat Gasket
	1 pc. Flat Gasket		1 pc. Flat Gasket	
Connector Type	Solder	Solder	Solder	Solder
Mounting	Screw	Male ½” NPT Threading	Screw	Screw
Maximum Conductor Size	17 AWG (1 mm2)	17 AWG (1 mm2)	17 AWG (1 mm2)	18 AWG (.75 mm2)
Rated Voltage	250 V	250 V	250 V	250 V

DIN 43650 Accessories

Gaskets & Screws for Connectors & Assemblies

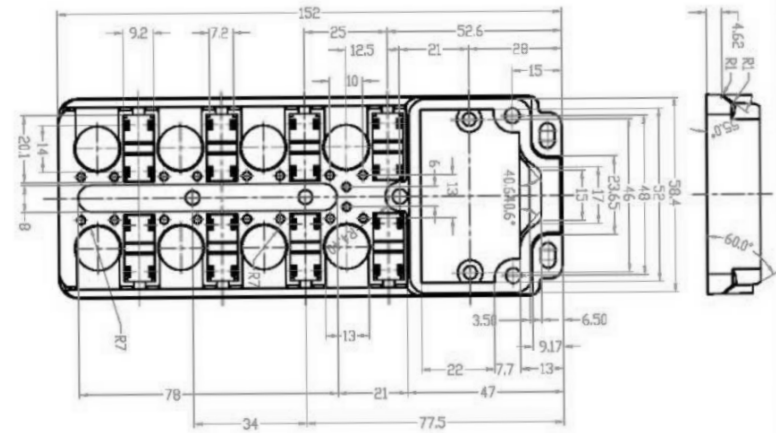
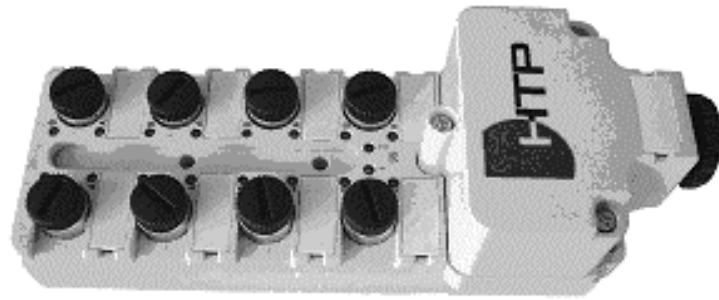
Center Screws			Screw Size		For Series		Plated Screw
			M2.5 x 21.5		8mm Molded		500-015-000
			M2.5 x 28.5		8mm Connectors		500-015-00A
			M3 x 21.5		9.5mm Molded		650-015-000
			M3 x 28.7		9.5mm Connectors		200-015-00A
			M3 x 28.8		18mm, 11mm, 10mm Molded		700-015-00B
			M3 x 32.5		18mm, 11mm, 10mm Connectors		100-015-000
	Flat Gasket	Sectional Gasket	Flat Gasket	Sectional Gasket	Flat Gasket	Sectional Gasket	Label Plate for Molded Assemblies
							
For Connector Types	DIN 43650 A (18mm)	DIN 43650 A (18mm)	Industrial Form B (11mm)	Industrial Form B (11mm)	Industrial Form C (9.4mm)	Industrial Form C (9.4mm)	
			DIN 43650 B (10mm)	DIN 43650 B (10mm)	DIN 43650 C (8mm)	DIN 43650 C (8mm)	
Part Numbers							
Rubber	100-014-00A	100-013-000	300-014-00A	300-013-00A	500-014-00A	500-013-000	200-007-000
Silicone	100-121-000	100-123-000	300-121-000	300-123-000	500-121-000	500-123-000	



NORSTAT INC.

M12 Distribution Boxes

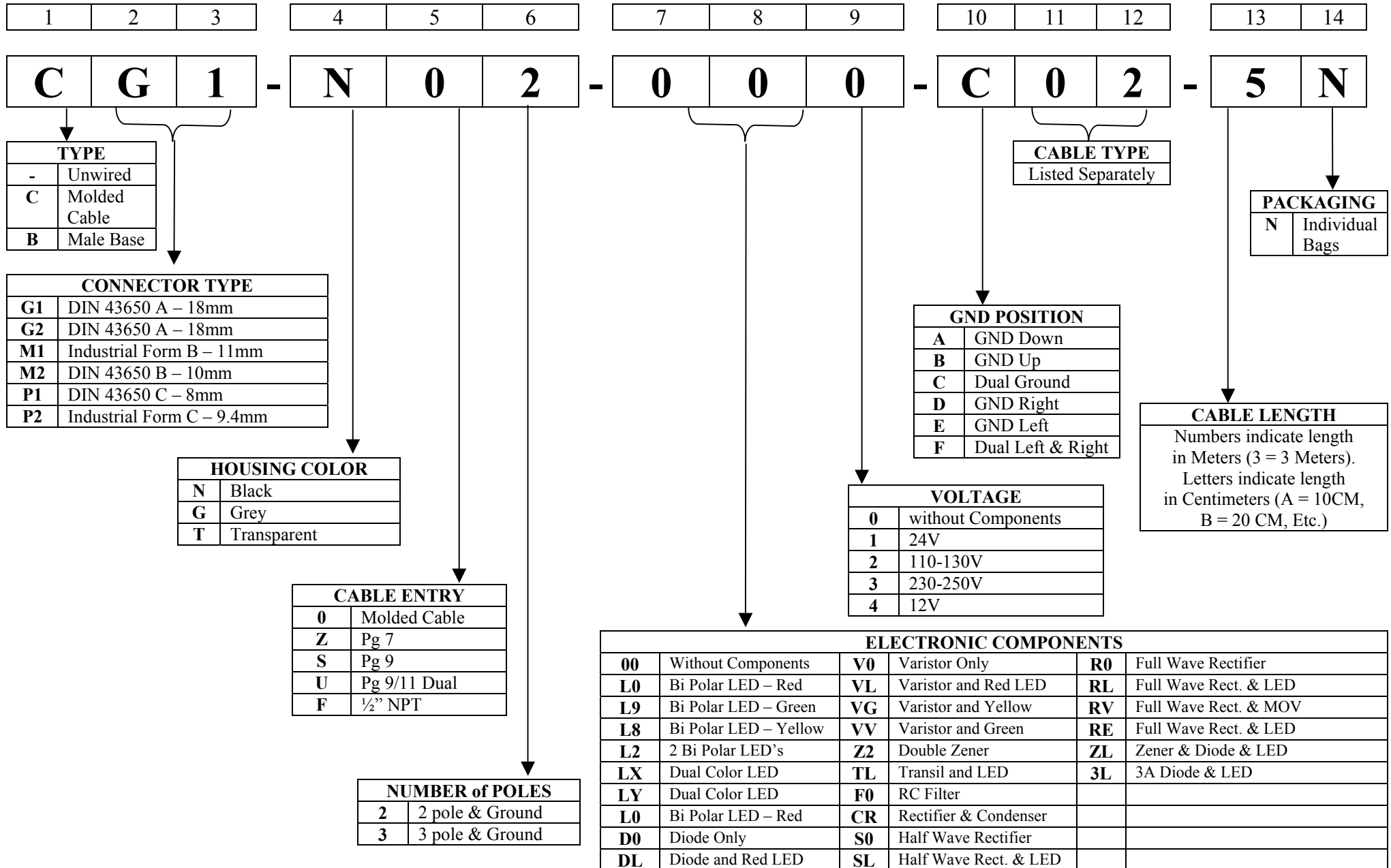
4, 6 and 8 Positions with 4 or 5 Pole M12 Connectors



Positions		Overall Size	4 Pole M12 Connectors		5 Pole M12 Connectors	
4 Position		H = 41.5 mm W = 60 mm L = 102 mm	J12-T4B4		J12-T4B5	
6 Position		H = 41.5 mm W = 60 mm L = 127 mm	J12-T6B4		J12-T6B5	
8 Position		H = 41.5 mm W = 60 mm L = 152 mm	J12-T8B4		J12-T8B5	
Standard Housing Color	Black	Protection Rating	IP 67	Contact Material	Phosphorous bronze	
Other Colors Available	Yellow & Orange	Operating Voltage	24 VDC	Contact Plating	Nickel + .45 μm AU Gold	
Housing Material	Nylon 6 = 30% fiber	Operating Current	4 A	Contact Resistance	≤ 6 MΩ	
Operating Temperature	-25°C to +85°C	Maximum Conductor Size	18 AWG	For Pin Dimension	1 mm	

DIN 43650 Connectors & Assemblies

Part Number Menu



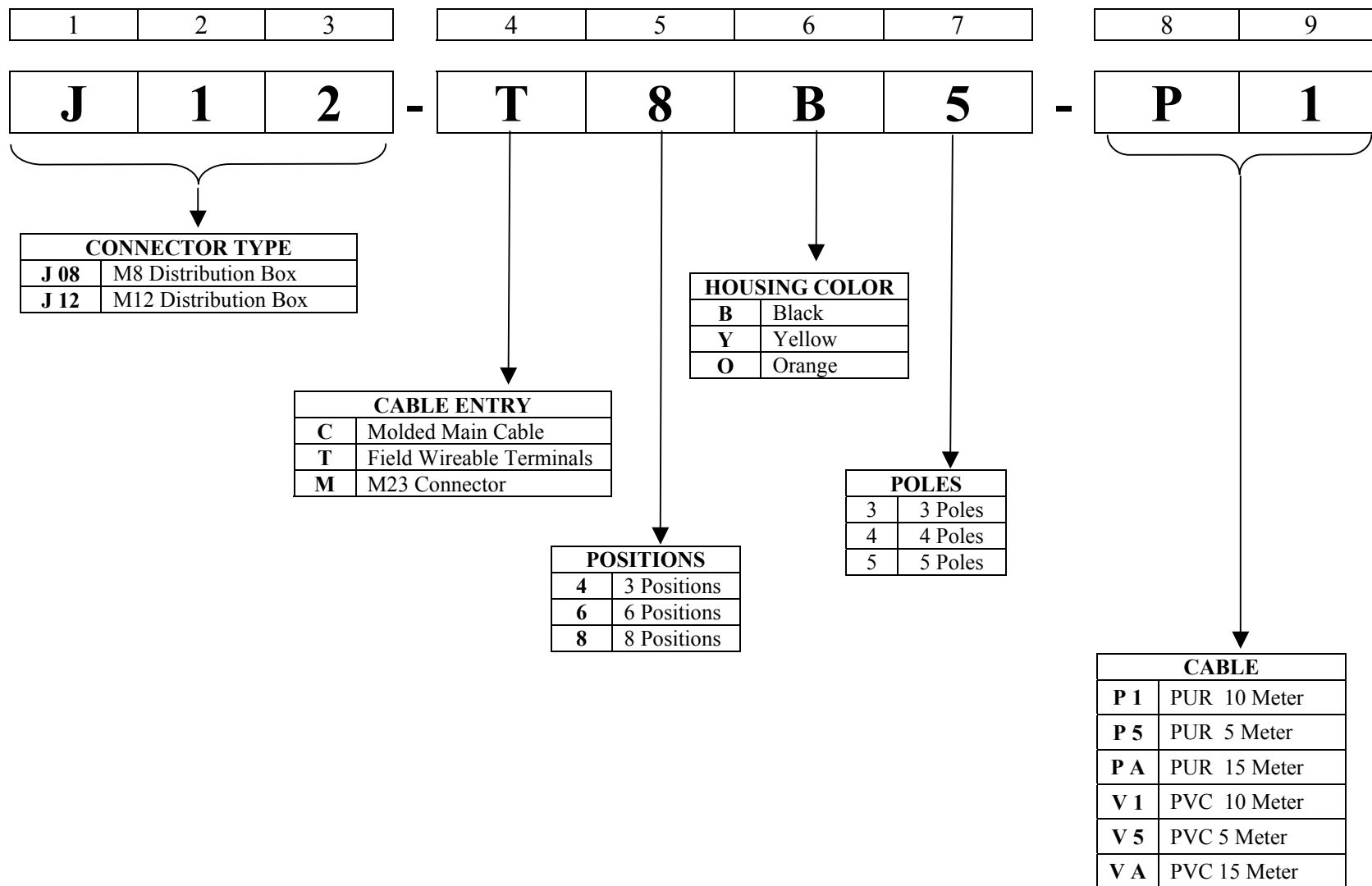
DIN 43650 Cable Types

Part Number Selection

Code	Cable Size	Jacket Insulation	Conductor Insulation	Cable Type	Jacket Color	Conductor Size	Number of Conductors
01	20/3	PVC	PVC	IEC 332-1 H03VVF	Black	20 AWG – 0.50mm ²	3
02	18/3	PVC	PVC	IEC 332-1 H05VVF	Black	18 AWG – 0.75mm ²	3
A1	20/2	PVC	PVC	IEC 332-1 H03VVF	Black	20 AWG – 0.50mm ²	2
B1	20/4	PVC	PVC	IEC 332-1 H03VVF	Black	20 AWG – 0.50mm ²	4
A2	18/2	PVC	PVC	IEC 332-1 H05VVF	Black	18 AWG – 0.75mm ²	2
B2	18/4	PVC	PVC	IEC 332-1 H05VVF	Black	18 AWG – 0.75mm ²	4
16	18/3	PVC	PVC	UL / CSA	Black	18 AWG – 0.75mm ²	3
30	20/3	PVC	PVC	UL / CSA	Black	20 AWG – 0.50mm ²	3
03	18/3	PVC	PVC	CEI 2022 II FROR	Grey	18 AWG – 0.75mm ²	3
A3	18/2	PVC	PVC	CEI 2022 II FROR	Grey	18 AWG – 0.75mm ²	2
04	20/3	PVC	PVC	CEI 2022 II FROR	Grey	20 AWG – 0.50mm ²	3
A4	20/2	PVC	PVC	CEI 2022 II FROR	Grey	20 AWG – 0.50mm ²	2
B4	20/4	PVC	PVC	CEI 2022 II FROR	Grey	20 AWG – 0.50mm ²	4
05	18/4	PVC	PVC	CEI 2022 II FROR	Grey	18 AWG – 0.75mm ²	4
C5	18/5	PVC	PVC	CEI 2022 II FROR	Grey	18 AWG – 0.75mm ²	5
06	17/3	PVC	PVC	CEI 2022 II FROR	Grey	17 AWG – 1.00mm ²	3
A6	17/2	PVC	PVC	CEI 2022 II FROR	Grey	17 AWG – 1.00mm ²	2
B6	17/4	PVC	PVC	CEI 2022 II FROR	Grey	17 AWG – 1.00mm ²	4
07	17/3	PVC	PVC	CEI 2022 II FROR - Shielded	Grey	17 AWG – 1.00mm ²	3
A7	17/2	PVC	PVC	CEI 2022 II FROR - Shielded	Grey	17 AWG – 1.00mm ²	2
B7	17/4	PVC	PVC	CEI 2022 II FROR - Shielded	Grey	17 AWG – 1.00mm ²	4
08	20/3	PUR	PVC	VO	Black	20 AWG – 0.50mm ²	3
A8	20/2	PUR	PVC	VO	Black	20 AWG – 0.50mm ²	2
B8	20/4	PUR	PVC	VO	Black	20 AWG – 0.50mm ²	4
09	18/3	PUR	PVC	VO	Black	18 AWG – 0.75mm ²	3
A9	18/2	PUR	PVC	VO	Black	18 AWG – 0.75mm ²	2
B9	18/4	PUR	PVC	VO	Black	18 AWG – 0.75mm ²	4
10	20/3	PUR	PUR	Li-YY11Y	Black	20 AWG – 0.50mm ²	3
AA	20/2	PUR	PUR	Li-YY11Y	Black	20 AWG – 0.50mm ²	2
AB	20/4	PUR	PUR	Li-YY11Y	Black	20 AWG – 0.50mm ²	4
11	18/3	PUR	PUR	Li-YY11Y	Black	18 AWG – 0.75mm ²	3
BA	18/2	PUR	PUR	Li-YY11Y	Black	18 AWG – 0.75mm ²	2
BB	18/4	PUR	PUR	Li-YY11Y	Black	18 AWG – 0.75mm ²	4
13	17/2	PVC	PVC	IEC 332-1 H05VVF	Black	17 AWG – 1.00mm ²	2
14	17/3	PVC	PVC	CEI 2022 II FROR	Black	17 AWG – 1.00mm ²	3
24	18/3	PUR	PVC	CEI 2022 II FROR - Shielded	Black	18 AWG – 0.75mm ²	3

Distribution Boxes

Part Number Menu



F.A.Q. - Frequently Asked Questions

About DIN 43650 Connectors and Assemblies

What is DIN?

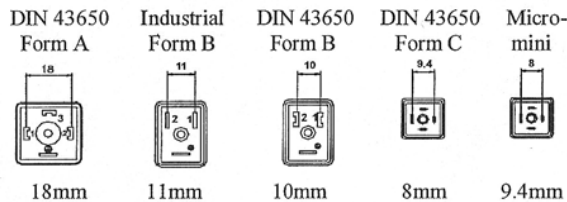
DIN (or Deutsch Industrial Normale) is a series of uniformity standards developed in Germany, which apply to commonly manufactured items.

What is DIN 43650?

DIN 43650 is the standard for a series of electrical connectors, which are commonly used with solenoid valves (especially those used on valves in hydraulics and pneumatics). Other applications include the connection special sensors, such as pressure switches, filter switches, optical, proximity and limit switches.

What does DIN 43650 include?

The DIN43650 family consists of 5 connectors:



Although their “official” names are listed on top, we generally refer to them as 18mm, 11mm, 10mm, 8mm or 9.4mm, which is the actual spacing between pin #1 and pin #2.

How are these connectors applied?

Generally, the male connector is attached to the solenoid valve or sensor and the female side connects to the cable.

The general rule in applying connectors is that a female connector is used to transfer the power to the male. This prevents the possibility of direct exposure to “hot pins”, (exposed male pins carrying voltage).

Female connectors are offered as shells, which allow you to attach your own cable via screw terminals or in molded cable assembly form, pre-wired with the cable attached to a solid molded plastic connector.

Why use a molded assembly?

Molded assemblies provide a more secure installation, offer many technical advantages and save installation time, labor and cost. Hand wiring a DIN connector is very labor intensive. Considering the overall cost of the connector, wire and labor, molded cable assemblies are generally much less expensive.

What other advantages do molded cable assemblies offer?

- Solid plastic construction super durability and resistance to harsh environments
- Impact resistant with greater cable strain relief
- Cleaner looking installation
- Available in all DIN 43650 configurations
- Offered in a large range of cable lengths
- With (or without) built in LED indication and surge suppression

What does the light indicate?

The LED on the top of the connector indicates if the connector is receiving power and is used for diagnostic purposes. Connectors with dual colored LED's are also available to show the state of pressure and filter switches.

Why use surge suppression?

In solenoid valve applications, a magnetic field is created around the coil. When the power is turned off (as the coil is de-energized) the remaining magnetic field collapses back onto the coil. This creates an electrical surge, which can exceed 3,000 volts. This happens in both AC and DC applications, with operating voltages as low as 12 volts.

The resulting surge can cause component damage (both short and long term) and can create noise problems that can interfere with control and measurement signals.

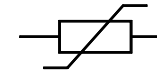
Building in surge suppression into the connector, stops the transient surge at the source. Some solenoid valves offer built in surge suppression, however since heat can effect the performance of surge suppression components, this is not always possible.

How does common surge suppression work?

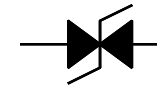
Typically simple surge suppression components either re-direct or absorb the transient surge. There are several different components which are commonly used:



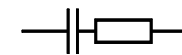
Suppression Diodes – (also called “fly-back” diodes or “avalanche” diodes) allow voltage and current to flow in only one direction. Placed in parallel to the load, the diodes react to the surge's polarity and re-direct the spike back to the coil where it dissipates. Diodes offer very good suppression; eliminating most of the surge. They are, however, polarity dependant (if they are installed incorrectly they cause a dead short). They also only work in DC circuits and can cause a release delay problem (the energy directed to the coil may delay the solenoid operation).



Varistors – (also called VDR's or MOV's) are voltage dependant resistors, which close the circuit once an assigned voltage is exceeded. Placed in parallel to the coil, they redirect any voltage, which is above the assigned or “cut off” levels, back to the coil where they dissipate. Varistors work for both AC and DC application and are polarity independent.

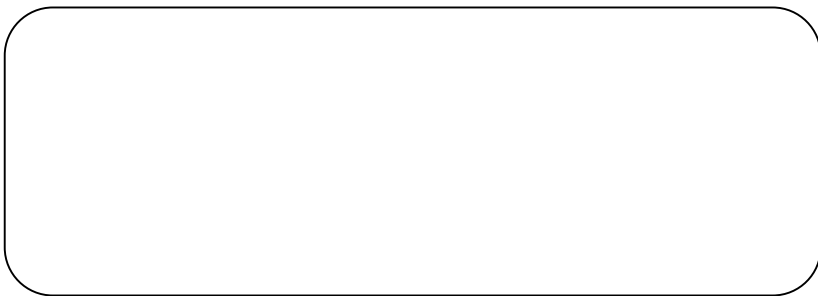


Zener Diodes (also called Z diodes) are also voltage dependant devices which work similarly to Variators.

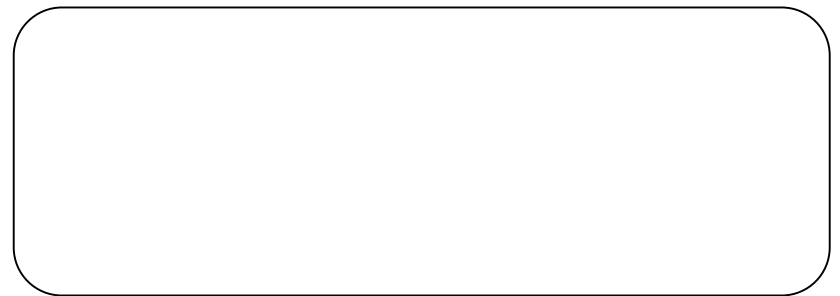


Resistor-Capacitor Networks – (also called RC's and snubbers) absorb the surge and gradually discharge the energy back onto the circuit.

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Distributed by:

A large, empty rounded rectangular box with a thin black border, intended for a signature or stamp.