

# mPm™ DIN 43650 CONNECTORS



## FEATURES:

- Highest quality, robust connectors for hydraulic and pneumatic electromechanical devices
- Broad offering of DIN 43650 connectors and devices
- Combined Brad® and mPm™ cordsets

## BENEFITS:

- Provide you with confidence that your mPm DIN 43650 connector will perform
- Provide you with a clear choice from leaders in input/output device connectivity

Device output connectivity has been simplified with the mPm™ DIN 43650 line of connectors, brought to you by Woodhead Connectivity. mPm devices give you choices -- in circuitry, orientation, pre-wired and field attachable versions -- to meet your applications needs.

When matched with our Brad Harrison® connector line, connecting your machinery output and input devices through your multi-port interconnection system is one simple solution away.

Whether your application requires a standard or custom designed interconnection scheme, you can count on Woodhead Connectivity to deliver. Indeed, we have the product line breadth and high quality reputation to provide you with the right solution.



# mPm™ DIN 43650 Connectors and Devices

As part of a total solution from Woodhead Connectivity, all mPm connectors and devices offer:

## Features

## Benefits

18, 11, 10, 9.4 and 8mm Standard DIN 43650 Connector and Device Platforms

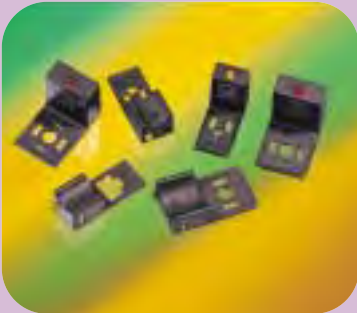
Connects to all DIN Standard Solenoid Pressure Switches

24V AC/DC, 115V AC/DC and 230V AC/DC Ratings Available

Supports the Widest Variety of Control Voltages

### Circuit Adapters

For addition of Electrical Protection and LED Power Indication to Existing DIN 43650 Installations



#### Features

- Installs between existing valve and DIN connector
- Wide choice of surge protection circuitry

#### Benefits

- Quick addition of LED and/or surge protection to existing installations
- Provides ability to closely match circuit with application, minimizing electrical noise occurrences, while protecting your solenoid coils

### DIN 43650 Bases

Add the DIN 43650 Connection Interface to Your Devices for Quick-Disconnect Capabilities



#### Features

- Mounts directly onto coil or enclosure
- Wide array of configurations available

#### Benefits

- Easily integrate the DIN 43650 interface into your device
- Choose the correct shape to fit your devices

### Electronic Plug-In Modules

Timers, Proportional Valve Control, Amplifier & Power Output Interfaces at the Valve Level



#### Features

- Modules plug right into 18mm Form A DIN interfaces
- Provides electronic device control at the valve level
- Amplifier module

#### Benefits

- Easy installation of specialized electronic controls to devices with DIN 43650 interfaces
- Control timers, power output modules and proportional solenoid valve devices
- Provides greater solenoid valve performance

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24V AC/DC, 115V AC/DC and 230V AC/DC Ratings Available

## Benefits

Connects to all DIN Standard Solenoid Pressure Switches

Supports the Widest Variety of Control Voltages

### DIN Field Attachable Units



Field Attachable Units Allow ‘on the spot’ Wiring of Your DIN 43650 Enabled Devices, Providing You a Quick-Disconnect Feature for Your Valves and other Devices.

#### Features

- Installs in the field
- Wide circuitry choices available
- LED, provides...
- Surge Protection...
- Rectifiers...

#### Benefits

- Flexibility to use any cable and ability to cut to any length on the spot
- Choose the most cost-effective circuit for your application
- Status Indication
- Reduce effects of noise & spikes, protect coils
- Drive DC coils w/AC circuits

### DIN Molded Single-ended Cords



Molded DIN 43650 Provides a Robust Connector and Pre-wired Cable, Saving You Valuable Installation Time, While Eliminating Costly Troubleshooting Encountered with Field Attachable Units.

#### Features

- Fully-integrated cable, DIN and head assembly
- Wide choice of circuitry, including LEDs, surge protection & rectifiers
- 100% computerized DIN testing
- Integrated white marking label

#### Benefits

- No need to field wire, saving installation head assembly time and eliminating wiring errors
- Choose the most cost-effective solution for your application
- Quality performance assurance
- Easy circuit identification

### DIN Molded Double-ended Corsets



Brad Harrison® and mPm™ Have Combined to Offer You Two Performance Leaders in One Solution. This Joint Endeavor Offers You Innovative Machine Connectivity Options.

#### Features

- Available with Micro-Change® & Mini-Change® Connectors
- Varistor circuit protection (VDR) 24V AC/DC to 230V AC/DC

#### Benefits

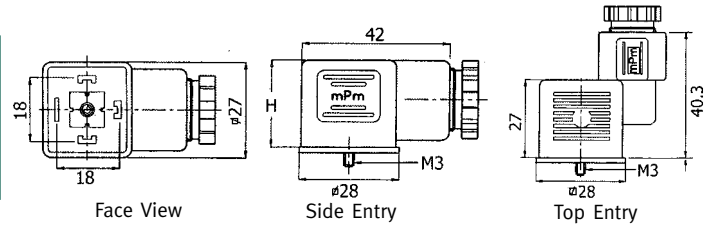
- Directly connect to Brad Harrison® Multi-port Interconnection System for “Plug & Play” of Outputs & Inputs
- Efficiently protects coils from induced high-voltage conditions

# mPm™ DIN 43650 FIELD ATTACHABLE CONNECTORS

## Dimensions (in mm)

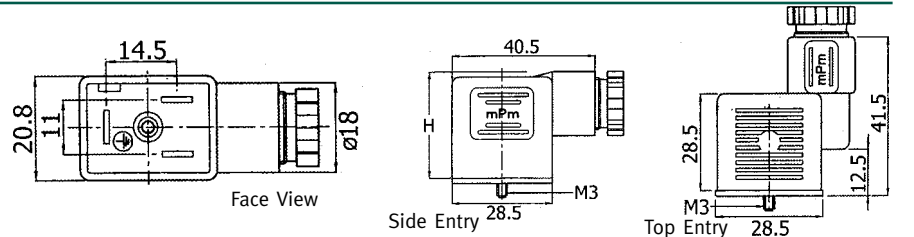
### 18mm DIN Form A

Series	Poles	Height	Entry	Series	Poles	Height	Entry
C182	2P+G	27mm	Side	S182	2P+G	27mm	Side
C183	3P+G	27mm	Side	S532	2P+G	34mm	Side
C812	2P+G	34mm	Side	S113	3P+G	38mm	Side
C813	3P+G	34mm	Side	C402	2P+G	27mm	Top
				C403	3P+G	27mm	Top



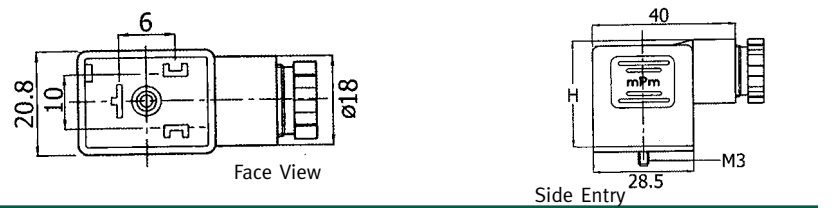
### 11mm Industry Standard B

Series	Poles	Height	Entry
C122	2P+G	30mm	Side
C702	2P+G	35mm	Side
S022	2P+G	30mm	Side
S542	2P+G	30mm	Side
C412	2P+G	24mm	Top



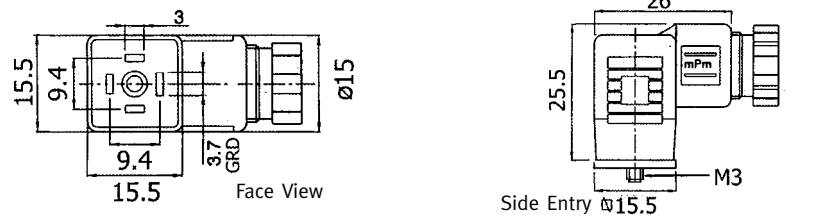
### 10mm DIN Form B

Series	Poles	Height
C622	2P+G	30mm
C822	2P+G	33mm
S622	2P+G	30mm



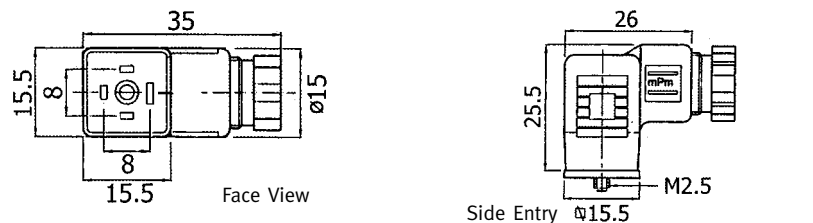
### 9.4mm Industry Standard B

Series	Poles	Height
C192	2P+G	25.5mm
C193	3P+G	25.5mm
S192	3P+G	25.5mm



### 8mm DIN Form C

Series	Poles	Height
C052	2P+G	25.5mm
C053	3P+G	25.5mm
S052	2P+G	25.5mm



## Technical Specifications

<b>Mechanical:</b>	
<b>Connector Material:</b>	Glass-Reinforced Polyamide
<b>Contact Material:</b>	Silver-plated brass
<b>Contact Resistance:</b>	≤ 4m Ohm
<b>Cable Sizes:</b>	PG07: .157-.236" (4-6mm) PG09: .236-.315" (6-8mm) PG11: .315-.394" (8-10mm) 1/2"NPT: for 1/2" conduit
<b>Electrical:</b>	
<b>Voltage Rating:</b>	Per circuit or 250VAC/300VDC for straight wired
<b>Amperage:</b>	10A
<b>Environmental:</b>	
<b>Protection:</b>	IEC IP65
<b>Operating Temp.:</b>	-40° to +194°F (-40° to +90°C)
<b>Insulation Class:</b>	VDE0110

## mPm Connectors Available Circuitry Options

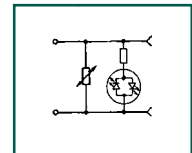
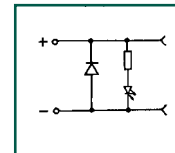
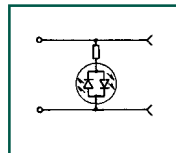
### Circuit I.D.

A1

C3

C4

### Schematic



### Description

Bipolar LED for Power Status Indication

LED + blocking diode protects against inductive voltage spikes (DC circuits only)

Bipolar LED and varistor (VDR) to protect supply switch from inductive voltage spikes

### Available on series:

S182\*, E452,  
S022\*, E462,  
S622\*, E472,  
S192\*, E392,

S182\*, E452,  
S022\*, E462,  
S622\*, E472,  
S192\*, E392,

S182\*, E452,  
S022\*, E462,  
S622\*, E472,  
S192\*, E392,  
S052\*, E492

\* Particular

## Part Number Matrix for mPm™ DIN Field Attachable Connectors WITHOUT Circuitry

**C183 | 09 | N | 2 | 1**

Connector Series
<b>18mm</b> C182, C183 C812, C813 C402, C403
<b>11mm</b> C122, C702 C412
<b>10mm</b> C622, C822
<b>9.4mm</b> C192, C193
<b>8mm</b> C052, C053

Cable Entry Size
<b>07 = PG7:</b> Available with C122, C412, C622, C19X, C05X
<b>09 = PG9:</b> Available with C18X, C81X, C40X, C122, C702, C412, C412, C622, C822
<b>11 = PG11:</b> Available with C18X, C81X, C40X
<b>13 = 1/2"-NPT:</b> Available with C18X, C122, C622

Gasket
<b>1</b> = Profile, nitrile
<b>2</b> = Flat, nitrile
<b>3</b> = Profile, silicon
<b>4</b> = Flat, silicon

Size
<b>2</b> = 18, 11 & 10mm DIN
<b>6</b> = 9.4 & 8mm DIN

Connector Color
<b>N</b> = Black
<b>G</b> = Gray

## Part Number Matrix for Field Attachable Connectors WITH Circuitry

**S622 | 07 | T | A1 | D | 4**

Connector Series
<b>18mm</b> S182, S532 S113
<b>11mm</b> S022, S542
<b>10mm</b> S622
<b>9.4mm</b> S192
<b>8mm</b> S052

Cable Entry Size
<b>07 = PG7</b> Avail. on S022, S542, S622, S192, S052
<b>09 = PG9:</b> Avail. on S182, S532, S113, S022, S542, S622
<b>11 = PG11:</b> Avail. on S182, S582, S113
<b>13 = 1/2"-NPT:</b> Avail. on S182, S532

Circuitry
See selection chart on this spread (below)

Gasket
<b>1</b> = Profile, nitrile
<b>2</b> = Flat, nitrile
<b>3</b> = Profile, silicon
<b>4</b> = Flat, silicon

Connector Color
<b>T</b> = Transparent
<b>G</b> = Gray
<b>N</b> = Black

LED Color & Voltage		
<b>Red LED</b>	<b>Green LED</b>	<b>Yellow LED</b>
<b>2</b> = 24V	<b>B</b> = 24V	<b>H</b> = 24V
<b>4</b> = 115V	<b>D</b> = 115V	<b>L</b> = 115V
<b>5</b> = 230V	<b>E</b> = 230V	<b>M</b> = 230V

DO	EO	SO	S1	RO	R2	QO
Varistor (VDR) only to protect supply and switch from inductive voltage spikes	Blocking diode protects device from inductive voltage spikes (DC circuits only)	Bipolar LED + transistor suppressor for fast overvolt blocking from highly inductive loads	Suppressor transistor only for fast overvolt blocking from highly inductive loads	Full-wave rectifier + VDR for surge protection. Drives DC coils on AC control circuits	LED, VDR + full-wave rectifier. Drives DC coils on AC control circuits	Red/green LED shows status of switch position. Used for level and pressure switches
S182, E452, S022, E462, S622, E472, S192, E392, S052, E492	S182, E452, S022, E462, S622, E472, S192, E392,	S182*, E452, S062*, E462, S622*, E472, E392,	S182, S022, S622	S532, S542	S532*, E452, S542*, E462, E472	S113 E453

# mPm™ DIN 43650 MOLDED CONNECTORS

## Part Number Matrix for mPm DIN 43650 Cables

**E452 N 300 1 2 So H**

Connector Series	
18mm	E312, E313, E452, E453
11mm	E332, E462
10mm	E082, E472
9.4mm	E332, E333, E392
8mm	E432, E333, E432

Length
100 = 1 Meter
300 = 3 Meters
500 = 5 Meters
10k = 10 Meters

Circuitry
00 = No circuits
XX = Other circuits, (see below, left)

LED Color & Voltage		
Red LED	Green LED	Yellow LED
2 = 24V	B = 24V	H = 24V
4 = 115V	D = 115V	L = 115V
5 = 230V	E = 230V	M = 230V

Ground Location
1 = Dual H6/H12
2 = H12
6 = H6

Gasket
1 = Profile, nitrile
2 = Flat, nitrile
3 = Profile, silicone
4 = Flat, silicone

Connector Color/Cable Type		
M = Black, gray PVC	H = Gray, Black PVC	W = Black, 18/5 gray
N = Black, black PVC	T = Black, black PUR (18, 11, 10mm)	P = Black, black PUR
G = Gray, gray PVC	U = Gray, black PUR	Q = Gray, black PUR

## Part Number Matrix for Cables with mPm DIN 43650 and Brad Harrison® Connectors

**E 8 5 0 B 0 A23 M 100**

Cable Length
1st digit is 10x length
2nd digit is 1x length
3rd digit is 0.1x length
Standard length: 1, 3 & 5 meters

**M = Meters**

Cable
A23 = Black PVC 18/3 18, 11, 10mm
E12 = Black PVC 20/3 9.4 & 8mm
P12 = Black PUR 20/3 18, 11, 10, 9.4 & 8mm
Ao6 = Yellow PVC with UL and CSA
Bo8 = Yellow PUR with UL and CSA

**Special Wiring**  
"o" is Default

Number of Poles
3 for Mini-Change®
5 for Micro-Change®

Second End of Cable
1 = Mini-Change® connector
8 = Single key Micro-Change® connector (M12)

Second End Body Style
0 = Micro-Change® Male Straight, H12 Ground
1 = Micro-Change® Male Straight, H6 Ground
2 = Micro-Change® Male 90°, H12 Ground
3 = Micro-Change® Male 90°, H6 Ground
4 = Mini-Change® Male Straight, H12 Ground
5 = Mini-Change® Male Straight, H6 Ground
6 = Mini-Change® Male 90°, H12 Ground
7 = Mini-Change® Male 90°, H6 Ground

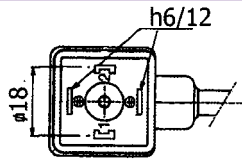
DIN Body Style
D = 10mm DIN Form B (2P + G)
E = 18mm DIN Form A (2P + G)
F = 11mm industry standard B (2P + G)
G = 9.4mm industry standard C (2P + G)
H = 8mm D

Voltage/Circuitry
B = 24V AC/DC, C4 circuit, yellow LED & VDR suppression
D = 115V AC/DC, C4 circuit, yellow LED & VDR suppression
S = 230V AC/DC, C4 circuit, yellow LED & VDR suppression

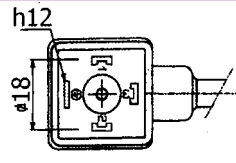
## Dimensions (in mm)

### 18mm DIN Form A

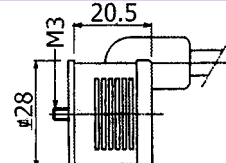
Series	Poles	Entry
E452	2P+G	Side
E453	3P+G	Side
E312	2P+G	Top
E313	3P+G	Top



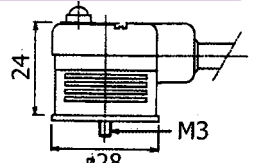
Dual Ground



Single Ground



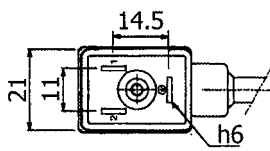
Top Entry



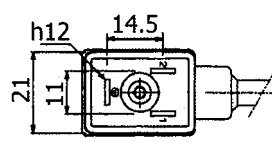
Side Entry

### 11mm Industry Standard B

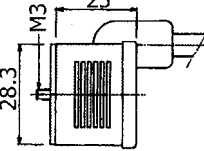
Series	Poles	Entry
E322	2P+G	Top
E462	2P+G	Side



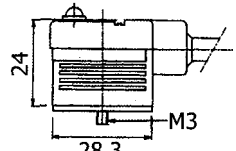
H6 Ground



H12 Ground



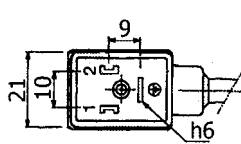
Top Entry



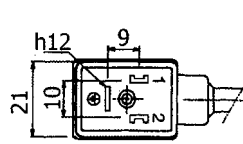
Side Entry

### 10mm DIN Form B

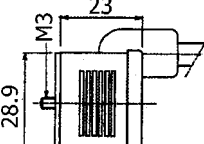
Series	Poles	Entry
E802	2P+G	Top
E472	2P+G	Side



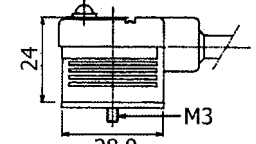
H6 Ground



H12 Ground



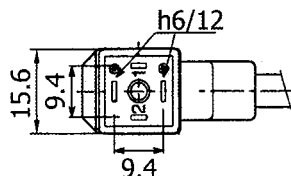
Top Entry



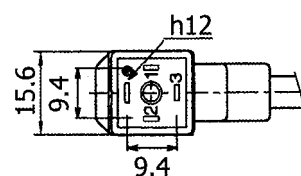
Side Entry

### 9.4mm Industry Standard C

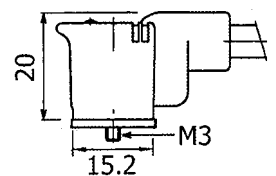
Series	Poles
E332	2P+G
E333	3P+G
E392	2P+G



Dual Ground



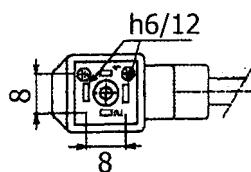
Single Ground



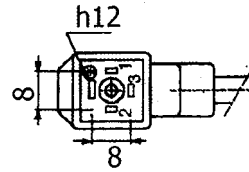
Side Entry

### 8mm DIN Form C

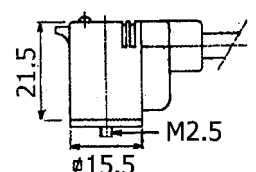
Series	Poles
E432	2P+G
E433	3P+G
E492	2P+G



Dual Ground

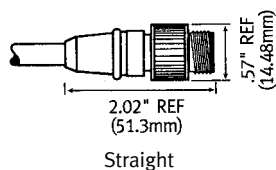


Single Ground

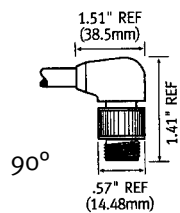


Side Entry

### Micro-Change® Male Plug



Straight



90°

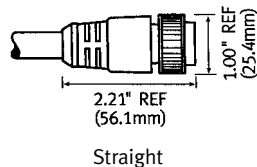
Face View Male



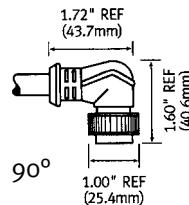
Wiring Code:

- 1 Not used
- 2 Not used
- 3 Blue
- 4 Brown
- 5 Grn/Yel

### Mini-Change® Male Plug

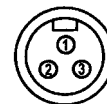


Straight



90°

Face View Male



Wiring Code:

- 1 Grn/Yel
- 2 Brown
- 3 Blue

## Technical Specifications

### Mechanical:

#### Connector Material:

DIN: Glass Reinforced Polypropylene  
Mini/Micro-Change: PVC

#### Contact Material:

DIN: Silver-plated Brass  
Mini/Micro-Change: Gold-plated Brass

Strain Relief: 35lbs. minimum

### Electrical:

**Voltage:** Per Circuit or 250V AC/DC

**Amps:** 5A w/#18 AWG Cable  
3A w/#20 AWG Cable

**Cable Gauge:** PUR: 20AWG (all)

PVC: 18AWG (18, 11, 10mm);  
20AWG (9.4, 8mm)

### Environmental:

**Protection:** IP65

**Temperature:** -13° to +167°F  
(-25° to +75°C)

**Certifications:** Spacing to VDE0110