

## CONFORMITY

### • **CE CONFORMITY DECLARATION**

ACCORDING TO EN 60730-1 \ EN 60529  
HTP HIGH TECH PRODUCTS S.R.L. DECLARES THAT ITS PRODUCTS ARE IN CONFORMITY WITH SAFETY REQUIREMENTS OF DIRECTIVES 2014/35/EU (ex 2006/95/CE, 73/23/CEE ), EMC 2014/30/EU (ex 93/68, 2004/108/EC ) AND VDE 110 TECHNICAL NORMS.



### • **ROHS DECLARATION**

HTP HIGH TECH PRODUCTS S.R.L. DECLARES THAT ITS PRODUCTS COMPLY WITH THE EUROPEAN STANDARD 2011/65/UE (ex 2002/95/CE) ROHS (RESTRICTION OF HAZARDOUS SUBSTANCES) AND WITH WEEE REQUIREMENTS.



### • **REACH DECLARATION**

HTP HIGH TECH PRODUCTS S.R.L. DECLARES THAT IT HAS FULLY COMPLIED WITH THE REACH NORMATIVE no. 1907/2006.

HTP HIGH TECH PRODUCTS S.R.L. NEITHER PRODUCES NOR IMPORTS CHEMICAL SUBSTANCES (AS CHEMICAL SUBSTANCES THEMSELVES OR AS COMPONENTS OF CHEMICAL SUBSTANCES); HOWEVER AS A USER OF SUBSTANCES, HTP HIGH TECH PRODUCTS S.R.L. HAS PROMOTED THE KNOWLEDGE OF THE REACH NORMATIVE TO ALL ITS SUPPLIERS WITH REGARD TO THE RAW MATERIALS BEING USED IN THE PROCESS AND HAS ENSURED THAT ALL ITS SUPPLIERS HAVE CONFORMED TO THE REACH NORMATIVE AND TO THE PRE-REGISTRATION IF REQUESTED.

ON THE BASIS OF THE INFORMATION RECEIVED FROM OUR SUPPLIERS, WE ALSO INFORM THAT THE PRODUCTS SUPPLIED BY HTP HIGH TECH PRODUCTS S.R.L. DO NOT CONTAIN ANY HIGHLY DANGEROUS SUBSTANCES INCLUDED IN THE CANDIDATE LIST (PUBLISHED BY THE AGENCY AND UPDATED) ABOVE THE LIMITS DEFINED IN THE REACH NORMATIVE.

### • **UL CERTIFICATES**



#### **DIN VALVE CONNECTORS FIELD ATTACHABLE & BASES**

CERTIFICATE OF COMPLIANCE  
Certificate n° E333724

COMPONENT-CONNECTORS FOR USE DATA, SIGNAL, CONTROL AND POWER APPLICATIONS  
USR, CNR Component Connector, Series G1, G2, G1F and header BG.  
Component Connector, Series Cat. Nos. P1 and P2 and header Series Cat. Nos. BP1 and BP2.  
USR, CNR Component Connector, Series M1&M2 and header BM.

Standard(s) for safety:

Component connectors for use in data, signal, control and power applications, UL 1977 and CAN/CSA C22.2 No.182.3-M1987



#### **M8 CIRCULAR CONNECTORS WITH MOULDED CABLE**

CERTIFICATE OF COMPLIANCE  
Certificate n° E464987

CABLE ASSEMBLIES AND FITTINGS FOR INDUSTRIAL CONTROL AND SIGNAL DISTRIBUTION  
Female and male cable fittings (one-side molded-on models).  
Series M8, Cat. Nos. 08 followed by F or M, followed by A or D followed by 3 or 4, followed by XXX (where X can be alphanumeric character), followed by -K6, followed by -UL, -HN-UL or -IN-UL.

Standard(s) for safety:

UL 2238 standard for cable assemblies and fittings for industrial control and signal distribution  
CSA C22.2 No.182.3-M1987 special use attachment plugs, receptacles and connectors.

#### **M12 CIRCULAR CONNECTORS WITH MOULDED CABLE**

CERTIFICATE OF COMPLIANCE  
Certificate n° E464987

CABLE ASSEMBLIES AND FITTINGS FOR INDUSTRIAL CONTROL AND SIGNAL DISTRIBUTION  
Female and Male Cable Fittings, Series M12, Cat. Nos. 12 or A12 or B12 or D12 or S12 followed by For M, followed by A or D or J or V, followed by 2 or 3 or 4 or 5 or 6 or 7 or 8, may be followed by -HN or -IN, followed by UL, may be followed by XXX (where X can be any alphanumeric character).  
Cable Assembly, Series M12, Cat. Nos. 12 or A12 or B12 or D12 or S12 followed by F or M, followed by A or D or J or V, followed by 2 or 3 or 4 or 5 or 6 or 7 or 8, followed by XXX (where X can be any alphanumeric character), may be followed by K6, followed by 12FA, or 12FD or 12FJ or 12FV or 12MA, or 12MD or 12MJ or 12MV, may be followed by -HN or -IN, followed by UL.

Outlet, Series M12, Cat. Nos. S12 followed by F, followed by P or R, followed by 2 or 3 or 4, followed by XXX, followed by PG9 or M16. followed by UL, may be followed by XXX (where X can be any alphanumeric character).

Standard(s) for safety:



UL 2238 standard for cable assemblies and fittings for industrial control and signal distribution  
CSA C22.2 No.182.3-M1987 special use attachment plugs, receptacles and connectors.

## CONFORMITY



### ATEX CERTIFICATES

CONNECTOR'S TYPE	ATEX MARKING
DIN VALVE CONNECTORS FIELD ATTACHABLE	  II 2G Ex e IIC T6 Gb ; II 2D Ex tb IIIC T85°C Db IP65/67
M12 CIRCULAR CONNECTORS FIELD ATTACHABLE	  II 2G Ex e IIC T6 Gb ; II 2D Ex tb IIIC T85°C Db IP65/67
M8 CIRCULAR CONNECTORS FIELD ATTACHABLE	  II 2G Ex e IIC T6 Gb IP55/57



#### DIN VALVE CONNECTORS FIELD ATTACHABLE:

		II	2G 2D	Ex	e tb	IIC IIIC	T6 T85°C	Gb Db	IP65/67
1	2	3	4	5	6	7	8	9	10



#### M12 CIRCULAR CONNECTORS FIELD ATTACHABLE:

		II	2G 2D	Ex	e tb	IIC IIIC	T6 T85°C	Gb Db	IP65/67
1	2	3	4	5	6	7	8	9	10

#### M8 CIRCULAR CONNECTORS FIELD ATTACHABLE:

		II	2G	Ex	e	IIC	T6	Gb	IP55/57
1	2	3	4	5	6	7	8	9	10

### GUIDE TO THE ATEX WORLD:

<b>1</b> ID 1	<b>2</b> ID 2	<b>3</b> Group Equipment	<b>4</b> Equipment Category						
 CE Marking 2632 : Notified body.	 ATEX Marking.	II = used in all other EX environments.	<p><b>2G</b> = equipment suitable for areas where, during normal activities, explosive atmospheres due to gas, vapors or mists (zone 1) may occur; suitable to be installed in zone 1.</p> <p><b>2D</b> = equipment suitable for areas where, during normal activities, explosive atmospheres due to a mixture of air and flammable dusts (zone 21) and that has inside a bonded device that will be connected to a category 1 equipment; suitable to be installed in zone 21.</p>						
			<table border="1"> <thead> <tr> <th>Equipment Category</th> <th>Gas zone (G)</th> <th>Dust zone(D)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>1</td> <td>21</td> </tr> </tbody> </table>	Equipment Category	Gas zone (G)	Dust zone(D)	2	1	21
Equipment Category	Gas zone (G)	Dust zone(D)							
2	1	21							

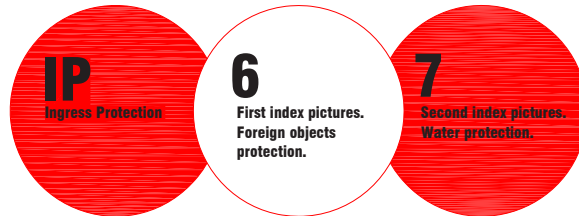
<b>5</b> Equipment	<b>6</b> Type of initiation protection	<b>7</b> Explosion Group
Ex= explosion-proof equipment.	e = "e" increased safety equipment. tb = equipment with an enclosure that prevents dust ingress and with devices to limit surface temperatures; protection level "b".	<p><b>IIC</b> = equipment not addressed to underground work in mines or their surface plants which could exposed to risk of explosive atmospheres - subgroup of C gas; suitable to be installed in presence of any gas (subgroups A, B and C).</p> <p><b>IIIC</b> = equipment not addressed to underground work in mines or their surface plants which could exposed to risk of explosive atmospheres - subgroup of C dusts; suitable to be installed in presence of any dust (subgroups A, B and C).</p>


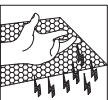
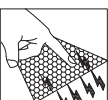



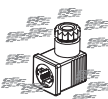
<b>8</b> Definition of temperatures generated by equipment	<b>9</b> Equipment protection level	<b>10</b> Protection class
<p><b>T6</b> = equipment that can reach, but not exceed 85°C of absolute temperature (depending on the protection mode, it can be either maximum temperature or surface maximum temperature).</p> <p><b>T...°C</b> = equipment that can reach, but not exceed in surface ...°C of absolute temperature.</p>	<p><b>Gb</b> = equivalent to 2G category.</p> <p><b>Db</b> = equivalent to 2D category.</p>	IP protection type.

## CONFORMITY

- INTERNATIONAL PROTECTION CLASSES according to EN 60529 (IEC 529 / VDE 047T1)**

FIRST INDEX PICTURE  
PROTECTION CLASS-PROTECTION AGAINST SOLID FOREIGN  
OBJECTS PENETRATING THE PRODUCT.

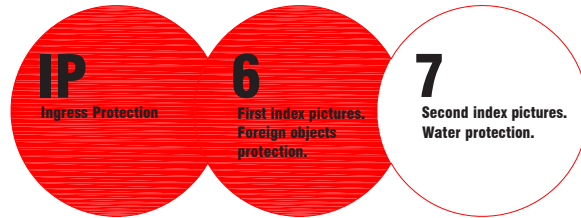




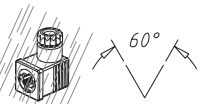
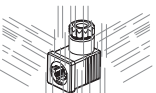





Index	Degree of protection	Definition
<b>0</b>	 <p>No protection against accidental contact, no protection against solid foreign bodies.</p>	
<b>1</b>	 <p>Protection against contact with any large area by hand and against solid foreign bodies with <math>\varnothing &gt; 50\text{mm}</math>.</p>	The sample object, a ball of 50mm diameter, must not penetrate the enclosure completely.
<b>2</b>	 <p>Protection against contact with the fingers, protection against solid foreign bodies with <math>\varnothing &gt; 12\text{mm}</math>.</p>	The sample object, a ball of 12.5mm diameter, must not penetrate the enclosure completely.
<b>3</b>	 <p>Protection against tools, wires or similar objects with <math>\varnothing &gt; 2.5\text{mm}</math>, protection against solid foreign bodies with <math>\varnothing &gt; 2.5\text{mm}</math>.</p>	The sample object, a ball of 2.5mm diameter, must not penetrate the enclosure at all.
<b>4</b>	 <p>Just like 3 except for the size difference of <math>\varnothing 1\text{mm}</math>.</p>	The sample object, a ball of 1mm diameter, must not penetrate the enclosure at all.
<b>5</b>	 <p>Full protection against contacts, protection against interior injurious dust deposits.</p>	Ingress of dust is not prevented completely but dust may only enter to such extent that the amount of dust does not interfere with normal operation or compromise safety.
<b>6</b>	 <p>Total protection against contact, protection against penetration of dust.</p>	Ingress of dust is not prevented completely.

## CONFORMITY

- INTERNATIONAL PROTECTION CLASSES according to EN 60529 (IEC 529 / VDE 047T1)**

SECOND INDEX PICTURE.  
PROTECTION CLASS-PROTECTION AGAINST INGRESS OF  
WATER WITH ADVERSE EFFECTS.



Index	Degree of protection	Definition
<b>0</b>	No protection against water.	
<b>1</b>	 Protection against vertical water drips.	Vertically falling water drops must not have any adverse effects.
<b>2</b>	 Protection against water drips (up to a 15° angle)	Vertically falling water drops must not have any adverse effects when the enclosure is tilted up to 15° on either side of the vertical.
<b>3</b>	 Protection against diagonal water drips (up to a 60° angle)	Water, sprayed at an angle up to 60° on either side of the vertical, must not have any adverse effects.
<b>4</b>	 Protection against splashed water from all directions.	Water, splashed against the enclosure from any direction, must not have any adverse effects.
<b>5</b>	 Protection against water (out of a nozzle) from all directions.	Water, projected in jets against the enclosure from any direction, must not have any adverse effects.
<b>6</b>	 Protection against temporary flooding.	Water, projected in powerful jets against the enclosure from any direction, must not have any adverse effects.
<b>7</b>	 Protection against temporary subimmersion in water.	Water may only enter to such extent that the amount of water entering the enclosure does not cause any adverse effects when the enclosure is temporarily immersed in water; standardized pressure and time conditions apply.
<b>8</b>	 Protected against permanent subimmersion in water.	Water may not enter to such extent that it causes any adverse effects when the enclosure is continuously immersed in water, under conditions that have been agreed upon by the manufacturer and the user; the conditions must be more difficult than the conditions described in point digit 7.
<b>9</b> <b>K</b>	 Protected against water from high-pressure / steam jet cleaners.	Water, directed against the enclosure from any direction under extremely high pressure, must not have any adverse effects.

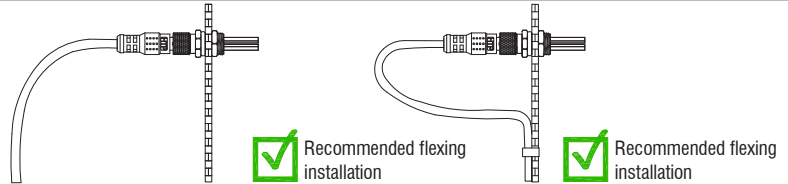
## CONFORMITY

### • CABLE INSTALLATION GUIDE

Avoiding common cabling pitfalls! Proper installation and maintenance of cabling systems will ensure high operational dependability and longevity of the system.

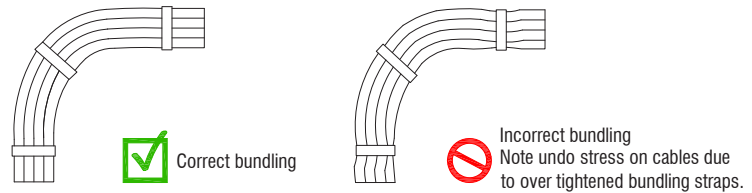
#### BEND RADIUS:

Procuring commensurate bend radius allows the cable to absorb the impact of bendig, with less tension, thereby, increasing its life cycle. Increasing bend radius can significantly increase the duration of the cable's life and reduce costs.



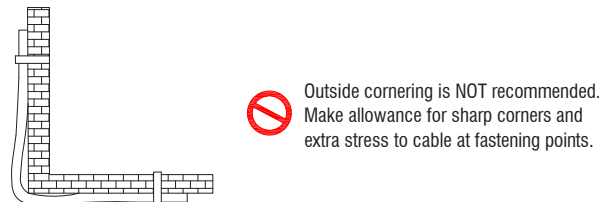
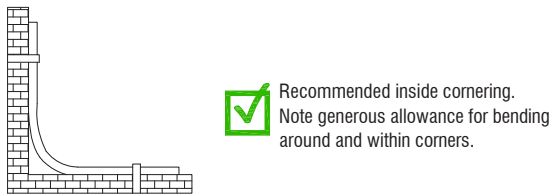
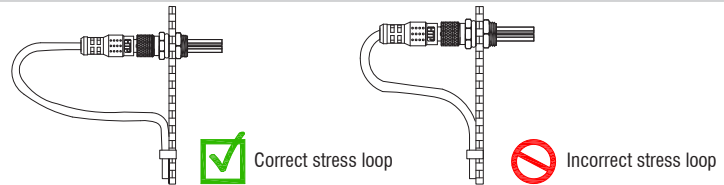
#### CABLE BUNDLING:

When attaching single cables to equipment, or bundling several cables together, care must be taken that the cable ties do not pinch or deform the cable. Correct cable bundling enables movement without stress to the cable, which will translate into long lasting usage.



#### STRESS POINTS:

Implementing a sufficient stress loop from a connection point will reduce excessive wear and eliminate a common problem: stress pints pictured below. Note the rugged overmoulded body, which provides exceptional stress relief in conjunction with the correctly installed stress loop.



#### INSTALLATION OF CABLE FOR MOTION APPLICATIONS:

When connected cable is subjected to any motion between two points, the cable length should be adequate to prevent any undue stress on the cable or plugs.

Cable loppes and cable tracks are the solution to eliminate cable stress due to motion.

