HYDAC ELECTRONIC

Bedienungsanleitung (Originalanleitung)
Differenz-Druckmessumformer HPT 500
mit Explosion Proof / Flame Proof-Zulassung

Operating Instructions (Translation of original instructions)
Differential Pressure Transmitter HPT 500
Explosion Proof / Flame Proof approval

CSA Explosion Proof (seal not required)	**Certificate No.:**	CSA MC 224264
ATEX Flame Proof	**Certificate No.:**	KEMA 10ATEX0100 X
IECEx Flame Proof	**Certificate No.:**	IECEx KEM 10.0053X

Certification / El. Connection	1/2 -14 NPT Conduit or M20x1,5 Conduit Single leads	1/2 -14 NPT Conduit or M20x1,5 Conduit Jacketed cable
cCSAus	Class I Groups A, B, C, D, T6, T5 Class I Zone 1 AEx db IIC T6, T5 Gb [US] Ex db IIC T6, T5 Gb [C] Class II Groups E, F, G T110°C, T120°C, T130°C Zone 21 AEx tb IIIC T110°C, T120°C, T130°C Db [US] Ex tb IIIC T110°C, T120°C, T130°C Db [C] Class III Type 4	Class I Groups A, B, C, D, T6, T5 Class I Zone 1 AEx db IIC T6, T5 Gb [US] Ex db IIC T6, T5 Gb [C] Class II Groups E, F, G T110°C Zone 21 AEx tb IIIC T110°C Db [US] Ex tb IIIC T110°C Db [C] Class III Type 4
ATEX	I M2 Ex db I Mb II 2G Ex db IIC T6, T5 Gb II 2D Ex tb IIIC T110°C, T120°C, T130°C Db	I M2 Ex db I Mb II 2G Ex db IIC T6, T5 Gb II 2D Ex tb IIIC T110°C Db
IECEx	Ex db I Mb Ex db IIC T6, T5 Gb Ex tb IIIC T110°C, T120°C, T130°C Db	Ex db I Mb Ex db IIC T6, T5 Gb Ex tb IIIC T110°C Db

Certification / El. Connection	Connection head Aluminum	Connection head Stainless steel
cCSAus	Class I Groups A, B, C, D, T6, T5 Class I Zone 1 AEx db IIC T6, T5 Gb [US] Ex db IIC T6, T5 Gb [C] Class II Groups E, F, G T110°C, T120°C, T130°C Class III Type 4	Class I Groups B, C, D, T6, T5 Class II Groups E, F, G T110°C, T120°C, T130°C Class III Type 4
ATEX	II 2G Ex db IIC T6, T5 Gb II 2D Ex tb IIIC T110°C, T120°C, T130°C Db	II 2G Ex db IIC T6, T5 Gb II 2D Ex tb IIIC T110°C, T120°C, T130°C Db
IECEx	Ex db IIC T6, T5 Gb Ex tb IIIC T110°C, T120°C, T130°C Db	Ex db IIC T6, T5 Gb Ex tb IIIC T110°C, T120°C, T130°C Db

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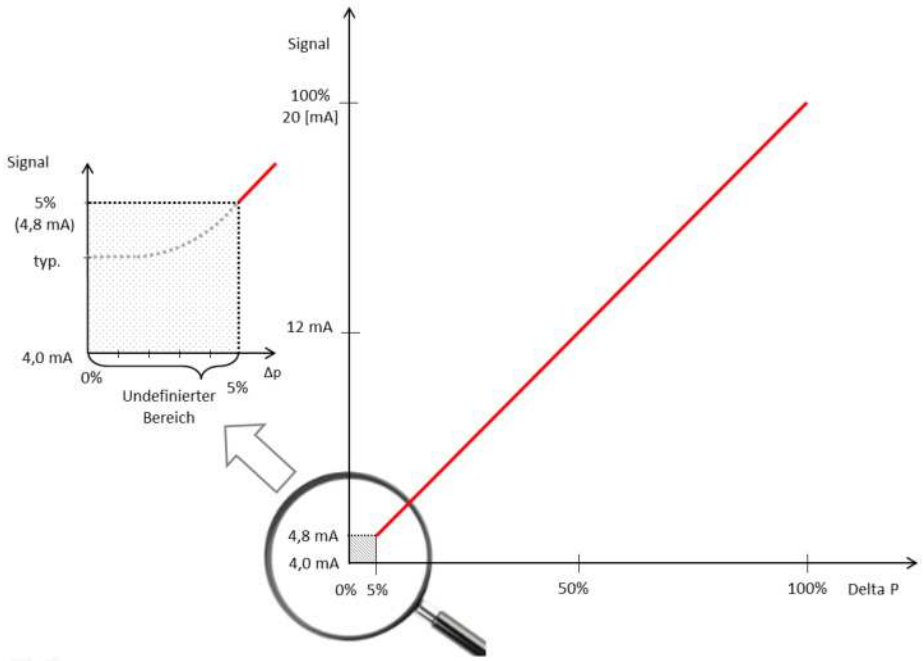
Appendix

1 Allgemeine Bemerkungen

Falls Sie Fragen bezüglich der technischen Daten oder Eignung für Ihre Anwendungen haben, wenden Sie sich bitte an unseren **technischen Vertrieb**. Die Differenzdruckmessumformer der Serie HPT 500 werden auf rechnergesteuerten Prüfplätzen abgeglichen und einem Endtest unterzogen. Sie sind wartungsfrei und sollten beim Einsatz innerhalb der Spezifikationen (siehe technische Daten) einwandfrei arbeiten. Falls trotzdem Fehler auftreten, wenden Sie sich bitte an den **HYDAC-Service**.
Nicht vorschriftgemäße Montage oder Fremdeingriffe in das Gerät führen zum Erlöschen jeglicher Gewährleistungsansprüche sowie der ATEX, IECEx und CSA Zulassung.

2 Funktionsweise

Das vom Druckmessumformer gemessene Drucksignal wird in ein dem Differenzdruck proportionales, analoges Ausgangssignal umgewandelt. Der Bereich zwischen 0% und 5% Differenzdruck ist undefiniert. Das bedeutet, dass ohne Delta P das Signal zwischen 4 mA und 4,8mA liegen kann, wie unten abgebildet.



3 Installation und Inbetriebnahme

Die Differenzdruckmessumformer können auf Prozess-Seite direkt über den Gewindeanschluss montiert werden.

Wenn die Druckmessumformer gemäß der Nordamerikanischen Zulassungen eingesetzt werden, ist die Benutzung eines Conduit Systems am 1/2-14 NPT oder M20x1,5 Gewinde des elektrischen Anschlusses zwingende Voraussetzung, auch im Zonen-System.

Die Installation muss von einem Fachmann nach den jeweiligen Landesvorschriften zu potenziell explosiven Umgebungen durchgeführt werden (z.B.: IEC / EN 60079-14).

Die Differenzdruckmessumformer der Serie HPT 500 tragen das CE - und UKCA - Zeichen. Die Konformitätserklärung befindet sich im Anhang.

Die Forderungen der Normen (siehe technische Daten) werden nur bei ordnungsgemäßer und fachmännischer Erdung des Differenzdruckmessumformer-Gehäuses mittels des Prozessanschlusses, dem ½-14 NPT oder M20x1,5 Conduit oder der Erdungsklemme (außen an einem Anschlusskopfs), erreicht. Sofern eine grün/gelbe Ader vorhanden ist, darf diese zusätzlich, aber nicht zur alleinigen Erdung verwendet werden.

Die Geräte müssen während der Installation geerdet sein. Die Eignung der Erdung unterliegt der Abnahme der lokal zuständigen Prüfbehörden.

Allgemeine Sicherheitshinweise (vgl. Abschnitt 5) sind in jedem Fall zu beachten.

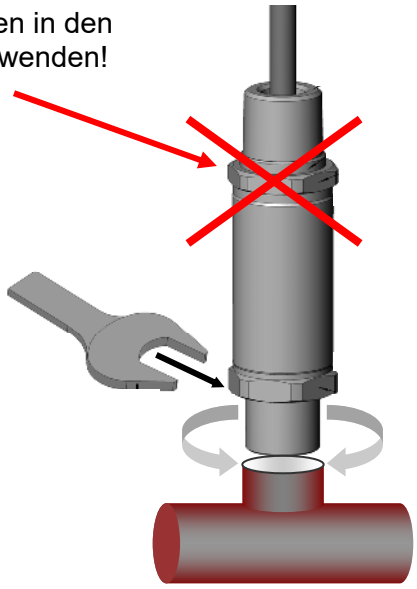
Einbau gemäß Kontrollzeichnungen Nr. 663932 (siehe Anhang A1)

4 Wichtige Hinweise für die Conduit-Installation

Mechanische Installation

Für die Montage des Prozessanschlusses darf nur die Schlüsselfläche an der Prozessanschlussseite des Gerätes verwendet werden.

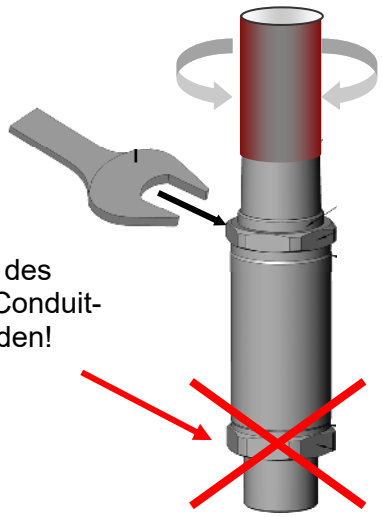
Nicht zum Einschrauben in den Prozessanschluss verwenden!



Elektrische Installation

Die Schlüsselfläche an der Seite des elektrischen Anschlusses dient nur zum Fixieren des Gerätes während der Conduit-Installation.

Nicht zum Fixieren des Sensors während der Conduit-Installation verwenden!



5 Allgemeine Sicherheitshinweise

Wenn das Etikett nicht mehr lesbar ist, muss der Differendruckmessumformer außer Betrieb genommen werden.

Die Dichtungen sind in regelmäßigen Abständen, in Abhängigkeit der klimatischen Bedingungen und dem Medieneinfluss, auf ihre Funktionstüchtigkeit zu kontrollieren und wenn erforderlich auszutauschen. Ersatzdichtungen und –flachdichtungen können von der HYDAC ELECTRONIC GMBH bezogen werden. (Standarddichtungen siehe Technische Daten)
Diese Überprüfung muss mindestens alle drei Jahre durchgeführt werden.

Wenn das Gerät oder Anschlusskabel beschädigt ist, müssen diese Bauteile ersetzt werden.

Es ist unbedingt auf die Verträglichkeit der Messmedien mit den verwendeten Werkstoffen des Differenzdruckmessumformers zu achten; ebenso sind die maximalen Betriebs- sowie die Berstdrücke unbedingt einzuhalten (Angaben hierzu siehe "Technische Daten"). Ebenso sind die im Zertifikat angegebenen "Sicherheitstechnischen Daten" einzuhalten.

Die Daten hinsichtlich der Nutzung in explosionsgefährdeten Umgebungen sind in jedem Fall zu berücksichtigen.

Der Differenzdruckmessumformer ist so zu installieren und zu verwenden, dass elektrostatische Aufladungen durch Betrieb, Wartung und Reinigung ausgeschlossen werden. Für den Einsatz in staubexplosionsgefährdeten Bereichen müssen prozessbedingte elektrostatische Aufladungen, z.B. durch vorbeiströmende Medien, ausgeschlossen werden.“

Die Geräte müssen während der Installation geerdet sein. Die Eignung der Erdung unterliegt der Abnahme der lokal zuständigen Prüfbehörden. Versorgungsspannung: ”Limited Energy” - gemäß CAN/UL 61010 (Clause 9.4), Class 2 UL1310, LPS (CAN/UL 60950).

Hinweis zur Verwendung des elektrischen Anschlusses allgemein (außer Anschlusskopf Aluminium mit Typenschlüssel-Code J):

- Für Class I, II und III: Seal not required.

Hinweis zur Verwendung für elektrische Anschlüsse mit integriertem Kabel mit Typenschlüssel-Code 9, G, U und W:

- Die Installation muss von einem Fachmann nach den jeweiligen Landesvorschriften zu potenziell explosiven Umgebungen durchgeführt werden (z.B.: IEC / EN 60079-14).
- Fester Einbau ist notwendig.

Hinweis zur Verwendung des elektrischen Anschlusses bei Einsatz z. B. eines Anschlusskopfes oder eines Klemmenkastens.
Generell ist immer die "Schedule of Limitations" (Liste der Einschränkungen) beim Anschluss der Differenzdruckmessumformer an einen Klemmkasten oder einen Anschlusskopf zu berücksichtigen.

Die Zertifikate für die Geräte mit Anschlusskopf, welcher von HYDAC Electronic montiert wird (im Typenschlüsssel Code J und Q), werden als Beilagedokument mitgeliefert.

Auszug aus den Zertifikaten der Hersteller Limatherm und Pushna als Beispiele für "Schedule of Limitations" (Liste der Einschränkungen).

- Aluminium Anschlusskopf (Code J im Typenschlüssel), Hersteller Limatherm, Serie XD-AD:
  - Auszug aus dem CSA Zertifikat:
    “For Class I Group A and for Class I Zone 1 installation a conduit seal is required within 18 inches of enclosure”
    (“Für Class I Group A und für Class I Zone 1 Einbau ist ein Conduit Seal (Zündsperre) innerhalb eines Abstands von 18" vom Gehäuse gemessen anzubringen”)
  - Auszug aus dem ATEX / IECEx Zertifikat:
    “No. 2 from Schedule of limitations: For Information on the dimensions of the flameproof

joints the manufacturer shall be contacted".
("Nr. 2 aus der Schedule of Limitations: Für Informationen über die Abmessungen der explosionssicheren Verbindungen ist der Hersteller zu kontaktieren.")

- Edelstahl Anschlusskopf (Code Q im Typenschlüssel), Hersteller Pushna, Serie 1016 PSEM
  - Auszug aus dem CSA Zertifikat:
    "Open circuit before removing cover"
    "Den Deckel nur im ausgeschalteten Zustand (unterbrochener Stromkreis) entfernen."
  - Auszug aus dem ATEX / IECEx Zertifikat:
    "No. 8 from Schedule of limitations: Consult the manufacturer if dimensional information on the flameproof joints is necessary"
    ("Nr. 8 aus der Schedule of Limitations: Bitte konsultieren Sie den Hersteller, sofern Informationen über die Abmessungen der explosionssicheren Verbindungen benötigt werden.")

Wichtiger Hinweis für den Einsatz in Bergwerksanwendungen:

Die chemische Beständigkeit der Differenzdruckmessumformer mit elektrischem Anschluss mittels Conduit mit Einzeladern oder freiem Kabelende ist nicht für den Einsatz in Bergwerksapplikationen gemäß ATEX und IECEx Gerätegruppe I getestet.
Für den Einsatz in Bergwerksapplikationen muss ein Conduit-Schlauch oder -Rohr am elektrischen ½-14 NPT oder M20x1,5 Anschluss installiert werden und das Kabel oder die Adern müssen so weit durch den Conduit bzw. das Rohr geführt werden bis ein Bereich erreicht wird, der außerhalb der chemischen Kontaminierung liegt.

6 Technische Daten

Eingangsgrößen	
Messbereiche in bar	Differenzdruck 2; 3, 5; 8 bar
Messbereiche (in psi)	Differenzdruck 30, 35, 75, 120 psi
Maximaler Betriebsdruck (MWP)	420 bar 6090 psi
Berstdruck	1600 bar 23200 psi
Anschlussart mechanisch	G ½ HN 28-22
Anzugsdrehmoment, empfohlen	100 Nm
Medienberührende Teile	Anschlussstück: Edelstahl Dichtungen: O-Ring: FKM Profildichtring: PTFE
Medienverträglichkeit	Hydrauliköle: H, HL, HLP, HVLP, HLPD nach DIN 51524 Biologisch schnell abbaubare Druckflüssigkeiten nach VDMA 24568 (HETG, HEES, HEPG)
Viskositätsbereich	Max. 250 cSt
Ausgangsgrößen	
Ausgangssignal, zulässige Bürde	4 .. 20 mA, 3-Leiter R_{Lmax}.= UB - 3 V / 20 mA [kΩ]
Genauigkeit nach DIN16086, Grenzpunkteinstellung [1]	≤ ± 3 % FS typ. ≤ ± 5 % FS max. (bezogen auf ΔP Messbereich)
Temperaturkompensation	≤ ±0,05 % FS / °C Nullpunkt max. ≤ ±0,05 % FS / °C Spanne max.
Langzeitdrift	≤ ± 0,5 % FS typ. / Jahr
Umgebungsbedingungen	
Kompensierter Temperaturbereich	+20 .. +70°C [+68.. +158°F]
Betriebs- /Umgebungstemperaturbereich [2]	T6, T110°C Ta = -20 .. +60°C [-4 ..+140 °F] T120°C Ta = -20 .. +70°C [-4 ..+158 °F] T5, T130°C Ta = -20 .. +80°C [-4 ..+176 °F]
Mediumstemperaturebereich [2]	T6, T110°C Ta = -20 .. +60°C [-4 ..+140 °F] T120°C Ta = -20 .. +70°C [-4 ..+158 °F] T5, T130°C Ta = -20 .. +80°C [-4 ..+176 °F]
Lagertemperaturbereich	-40 .. +100 °C [-40 .. +212 °F]
CE-Zeichen, UKCA - Zeichen	EN 61000-6-1/ 2/ 3/ 4 ; EN 60079-0/ 1/ 31
Vibrationsbeständigkeit nach DIN EN 60068-2-6 bei 10 .. 500 Hz	≤ 10 g ≤ 5 g mit Anschlusskopf
Schutzart nach IEC 60529 [3] ISO 20653	IP 68 (Ausführung mit Anschlusskopf), IP 69 IP 6K9K
Sonstige Größen	
Versorgungsspannung [4]	8 .. 30 V DC
Restwelligkeit Versorgungsspannung	≤ 5%
Stromaufnahme	≤ 25mA
Lebensdauer	>1 Mio. Lastwechsel, 0 .. 100% FS
Gewicht (ohne Anschlusskopf)	ca. 450 g

Anmerkung:

Verpolungsschutz der Versorgungsspannung, Überspannungs-, Überersteuerungsschutz, Lastkurzschlussfestigkeit sind vorhanden.

FS = **F**ull **S**cale = bezogen auf den vollen Messbereich

1) Die Genauigkeit gilt, wenn der Sensor in einem Stahl- oder Edelstahl-Anschlussblock eingebaut ist.
2) Temperaturbeschränkungen der einzelnen elektischen Anschlüsse, siehe Seite 1 in dieser Bedienungsanleitung.
3) Für Anschlusskopf: Die Kabelverschraubung muss ebenfalls IP 68 erfüllen und das ½-14 NPT Gewinde der Kabelverschraubung muss mittels Gewindedichtungsmasse abgedichtet werden
4) "Limited Energy" - gemäß CAN/UL 61010 (Clause 9.4), Class 2 UL1310, LPS (CAN/UL 60950).

7 Typenschlüssel zur Identifikation des gelieferten Gerätes

HPT 5 0 X - X - XXXX - S - D - XXX (psi) 72 inch

Anschlussart elektrisch
9 = 1/2-14 NPT Conduit (Außengewinde), Einzeladern
G = 1/2-14 NPT Conduit (Außengewinde), freies Kabelende
J = Anschlusskopf (Aluminium)
Q = Anschlusskopf (Edelstahl)
U = M20x1,5 Conduit (Außengewinde), freies Kabelende
W = M20x1,5 Conduit (Außengewinde), Einzelladern

Ausgangssignal
C = 4 .. 20 mA, 3 Leiter

Messbereiche
Angabe in bar oder psi
(bei psi, siehe zusätzliches Kennzeichnung))

Gehäusewerkstoff
S = Edelstahl

Zulassung
D = $_{c}CSA_{us}$ Explosion Proof (seal not required)
ATEX Flame Proof
IECEx Flame Proof

Modifikationsnummer
000 = Standard

Bei Geräten mit anderer Modifikationsnummer ist das Typenschild bzw. die mitgelieferte technische Änderungsbeschreibung zu beachten.

(psi)
Zusätzliche Kennzeichnung) für psi-Versionen (entfällt bei bar Version)

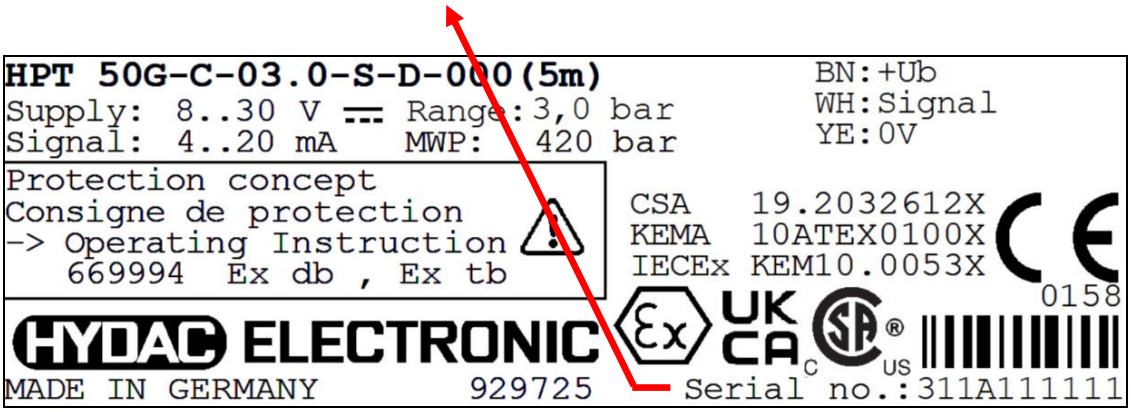
Kabellänge
Angabe in m oder " (inch)

8 Seriennummer

In der Seriennummer sind neben der fortlaufenden Seriennummer die Kalenderwoche und das Jahr der Herstellung des Geräts enthalten.

Konfiguration der Seriennummer (SN): xyykzzzzzz

X	Herstellungsdatum	z.B. : 3 → 2023
yy	Kalenderwoche	z.B. : 11→ KW 11
k	Seriennummer-Index	z. B. : -, A, B, …
zzzzzz	Fortlaufende Seriennummer	z. B. : 111111



9 Anschlussbelegung

Conduit mit Einzeladern
oder Anschlusskopf (Klemmenblock)

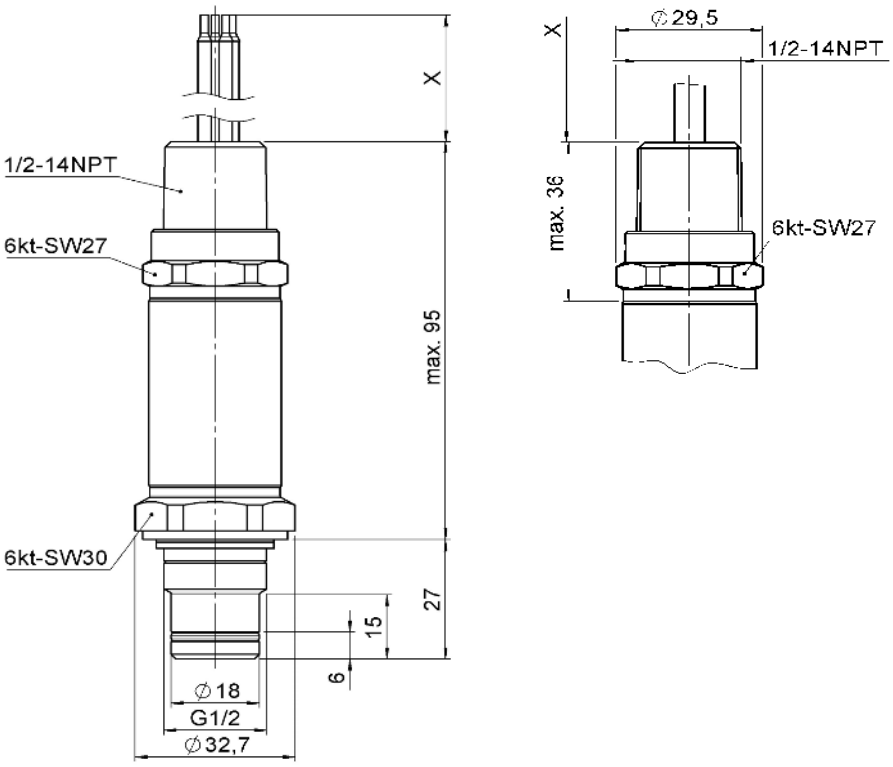
Ader	HPT 509 / HPT 50W HPT 50J / HPT 50Q
rot	+ U_B
weiß	Signal
schwarz	0 V
grün-gelb	PE / Gehäuse

Conduit (freies Kabelende)

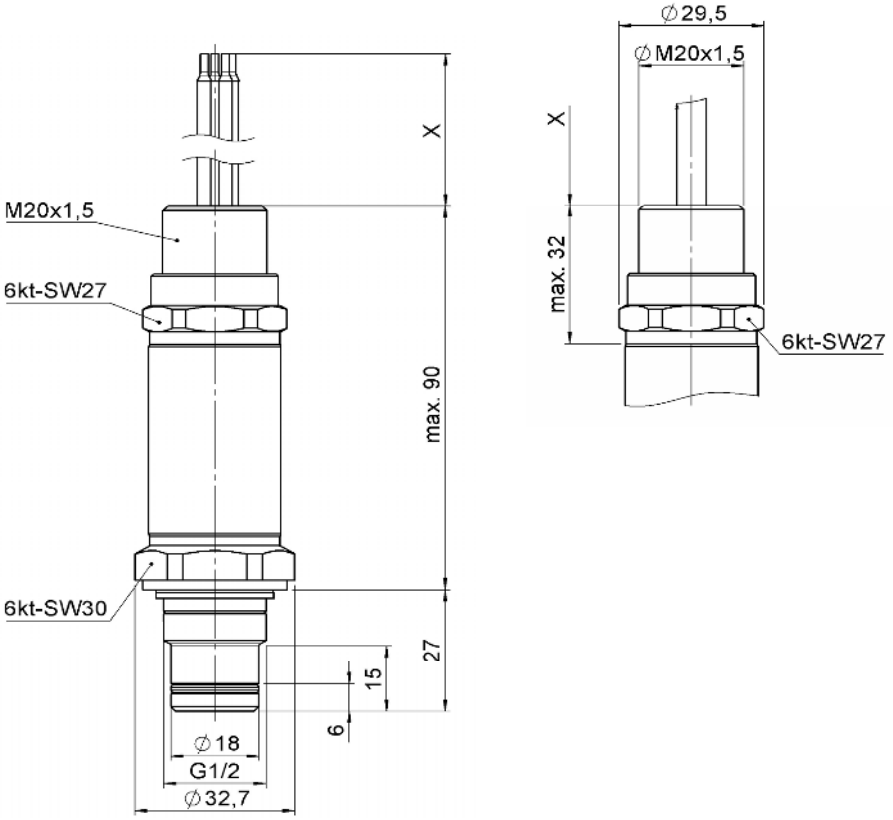
Ader	HPT 50G / HPT 50U
braun	+ U_B
weiß	Signal
gelb	0 V
grün	n.c

10 Geräteabmessungen

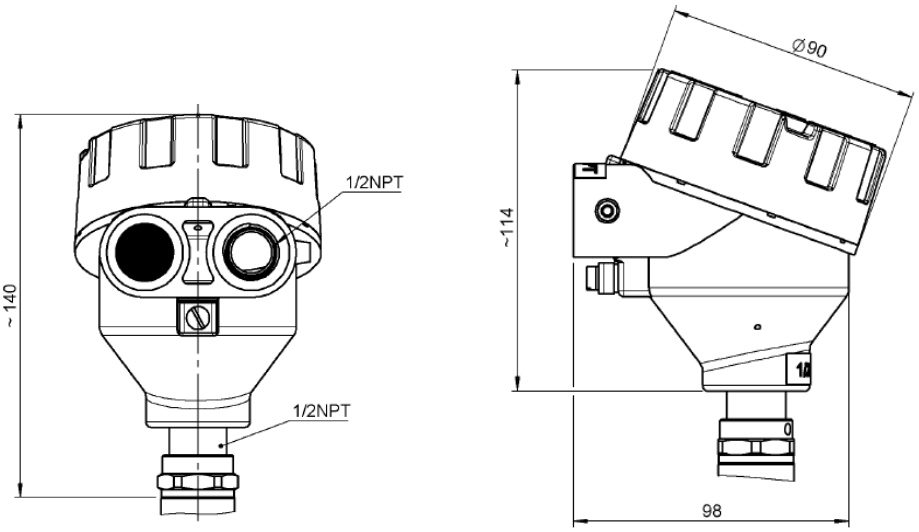
10.1 Mit 1/2-14 NPT Conduit



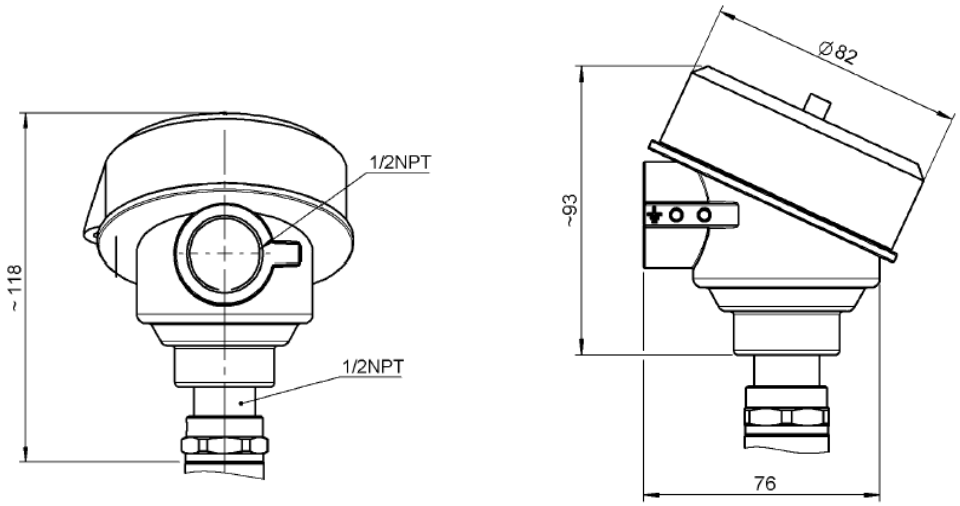
10.2 Mit M20x1,5 Conduit



10.3 Mit Anschlusskopf (Aluminium)



10.4 Mit Anschlusskopf (Edelstahl)



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HYDAC Service
Für Fragen zu Reparaturen steht Ihnen der HYDAC Service zur Verfügung:

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Tel.: +49-(0)6897-509-1936
Fax: +49 (0)6897 509-1933

Anmerkung

Die Angaben in diesem Handbuch beziehen sich auf die beschriebenen Betriebsbedingungen und Einsatzfälle. Bei abweichenden Einsatzfällen und/oder Betriebsbedingungen wenden Sie sich bitte an die entsprechende Fachabteilung.

Bei technischen Fragen, Hinweisen oder Störungen nehmen Sie bitte Kontakt mit Ihrer HYDAC-Vertretung auf.

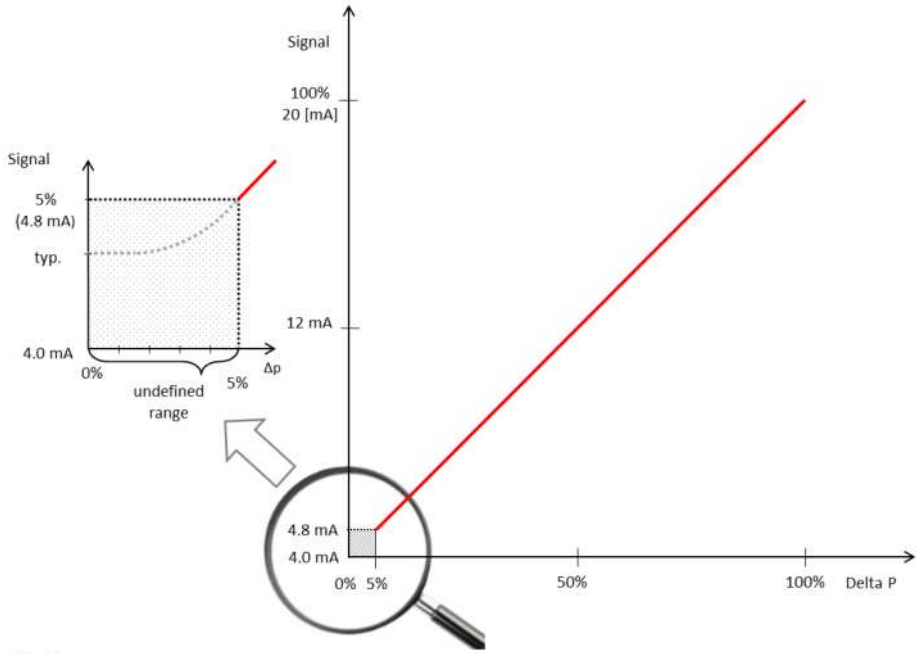
Technische Änderungen sind vorbehalten.

1 General Remarks

If you have any queries regarding technical details or the suitability of the unit for your application, please contact our **Technical Sales Department**. The series HPT 500 differential pressure transmitters are individually tested and calibrated at a computer operated test station. They are maintenance-free and operate perfectly when used according to the data (see Technical Specifications). However, if there is a cause for complaint, please contact **HYDAC Service**.
Incorrect use or interference by anyone other than HYDAC personnel will cause all warranty claims and ATEX, IECEx und CSA approvals to become null and void.

2 Function

The pressure signal measured by the transmitter is converted into an analog output signal which is proportional to the delta P. The range between 0% and 5% differential pressure is an undefined range. This means if there is no delta P, the signal can be between 4mA and 4.8mA as shown in the image below.



3 Installation and commissioning

The differential pressure transmitters can be installed directly on the process side via the threaded connection.

When the transmitters are used according to North American approvals, the use of a conduit system at the ½-14 NPT or M20x1.5 thread at the electrical connection is mandatory, also in the zone system.

The installation is to be carried out by a properly qualified specialist in accordance with the pertinent regulations pertaining to potentially explosive environments (e.g. IEC / EN 60079-14).

The differential pressure transmitters of the series HPT 500 carry the CE - and UKCA - mark. The certificate of conformity is to be found in the annex.

The requirements of the standards (see technical data) cannot be satisfied unless the differential pressure transmitter housing is properly grounded via the mechanical connection, the ½-14 NPT or M20x1.5 conduit or the ground terminal which is located at the outside of the connection head. If a green-yellow wire is available, it can be used additionally for grounding, but may not be used on its own as the grounding connection.

The devices must be grounded during installation. The suitability of the grounding shall be subject to the acceptance of the local inspection authority having jurisdiction.

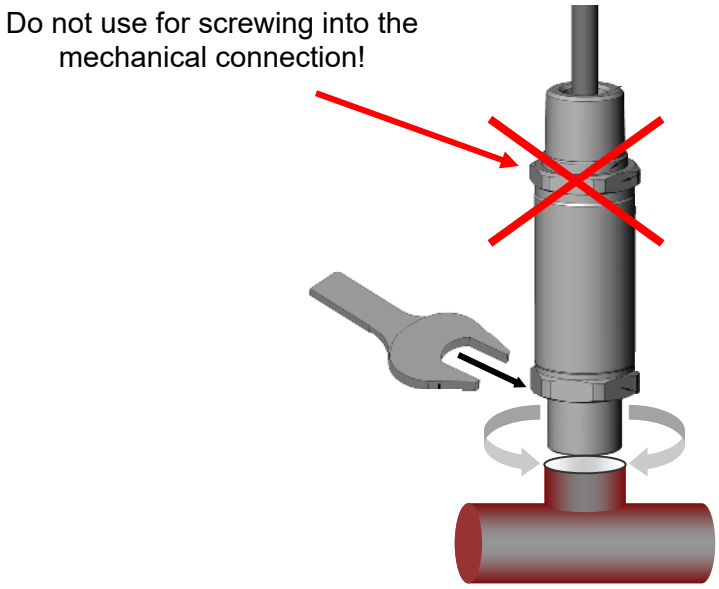
The General Safety Precautions (cf. section 5) are to be heeded in any event.

Installation per Control Drawings No. 663932 (see appendix A1)

4 Important Mounting Instructions for Conduit Connection

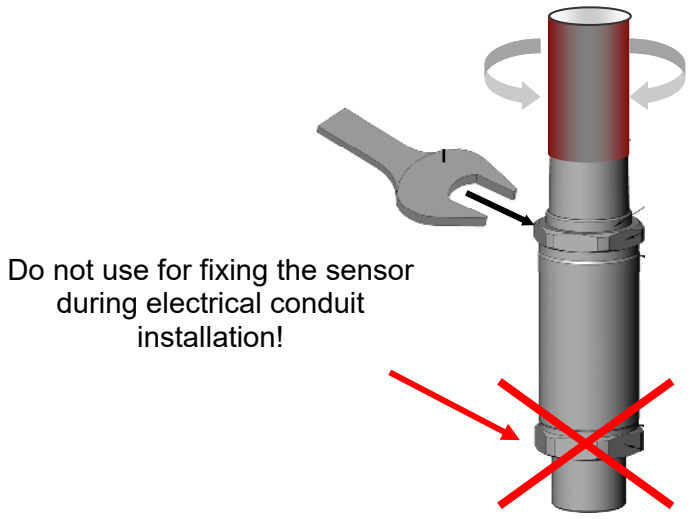
Mechanical Installation

The process installation of the transmitters may only be carried out utilizing the flats on the process connection side.



Electrical Installation

The electrical installation of the transmitter may only be carried out utilizing the flats on the electrical connection side.



5 General safety precautions

The differential pressure transmitter may no longer be used when the label becomes illegible.

The seals must be checked to see that they function properly at regular intervals in keeping with the climatic conditions and the influence of the media, and to be changed as needed. Replacement seals can be obtained from HYDAC ELECTRONIC GMBH. (Standard seals, see technical data) This check is to be carried out at least every three years.

If there is damage to the unit or connecting lead, these components are to be replaced.

It is imperative that the measurement fluid is compatible with the materials used in the pressure transmitter; similarly, the maximum working pressure as well as the burst pressure must be adhered to without fail (for these specifications, see the “Technical data”). The "Safety relevant Information" in the certificates must also be met.

The data pertaining to use in hazardous location is to be heeded in any event.

The differential pressure transmitter has to be installed and operated in a way that electrostatic charges, caused by operation, maintenance and cleaning, can be excluded.
For the application in potentially dust-explosive areas, process-related electrostatic charge, i.e. due to fluids flowing past, has to be excluded.

The devices must be grounded during installation. The suitability of the grounding shall be subject to the acceptance of the local inspection authority having jurisdiction. “Limited Energy” powered according to CAN/UL 61010 (Clause 9.4), Class 2 UL1310, LPS (CAN/UL 60950).

Note for use for electrical connection in general (except connection head aluminum, model code character J):

- For Class I, II and III: Seal not required.

Note for use for electrical connection” integrated cable” with model code character 9, G, U and W:

- The installation is to be carried out by a properly qualified specialist in accordance with the pertinent regulations pertaining to potentially explosive environments (e.g. IEC / EN 60079-14).
- A fixed installation is required.

Note for use for electrical connection by using e.g. a conection head or junction box.
In general, when transmitters are connected to a junction box or connection head always respect the schedule of limitations.

The certificates for devices with connection head assembled from HYDAC Electronic (model code character J and Q) are supplied as an appendix.

Excerpt of the certificates from the manufacturers Limatherm and Pushna as example for schedule of limitations:

- Aluminum connection head (model code character J), manufacturer Limatherm, series XD-AD:
  - Excerpt CSA certificate:
    “For Class I Group A and for Class I Zone 1 installation a conduit seal is required within 18 inches of enclosure”
  - Excerpt ATEX / IECEx certificate:
    “No. 2 from Schedule of limitations: For Information on the dimensions of the flameproof joints the manufacturer shall be contacted”.

- Stainless steel connection head (model code character Q), manufacturer Pushna, series 1016 PSEM
  - Excerpt CSA certificate:
    “Open circuit before removing cover”

- Excerpt ATEX / IECEx certificate:
  “No. 8 from Schedule of limitations: Consult the manufacturer if dimensional information on the flameproof joints is necessary”

Important note for the use in mining applications:

The chemical resistance for transmitters with electrical conduit connection with single leads or jacketed cable is not tested for the use in mining applications according to ATEX and IECEx equipment group I.
When used in mining applications a conduit hose or pipe is to be installed at the ½-14 NPT or M20x1.5 electrical connection and the cable or leads are to run inside the conduit until an area is reached which is not contaminated with chemicals.

6 Technical Data

Input data	
Measuring ranges in bar	Differential pressure 2, 3, 5, 8 bar
Measuring ranges in psi	Differential pressure 30, 35, 75, 120 psi
Maximum **W**orking **P**ressure (MWP)	420 bar 6090 psi
Burst pressure	1600 bar 23200 psi
Mechanical connection	G ½ HN 28-22
Tightening torque, recommended	100 Nm
Parts in contact with fluid	Process connection: Stainless steel Seals: O-Ring: FKM Profile seals: PTFE
Fluid compatibility	Hydraulic fluids: H, HL, HLP, HVLP, HLPD acc. to DIN 51524 Rapid biodegradable hydraulic fluids acc. to VDMA 24568 (HETG, HEES, HEPG)
Viscosity range	Max. 250 cSt
Output data	
Output signal, permitted load resistance	4 .. 20 mA, 3-conductor R_{Lmax}.= U_B - 3 V / 20 mA [kΩ]
Accuracy acc. to DIN 16086, terminal based [1)]	≤ ± 3 % FS typ. ≦ ± 5 % FS max. (related to ΔP measuring range)
Temperature compensation	≤ ±0.05 % FS / °C max. zero point ≤ ±0.05 % FS / °C max. range
Long-term drift	≤ ± 0.5 % FS typ. / year
Environmental conditions	
Compensated temperature range	+20 .. +70°C [+68.. +158°F]
Operating / Ambient temperature range [2)]	T6, T110°C Ta = -20 .. +60°C [-4 ..+140 °F] T120°C Ta = -20 .. +70°C [-4 ..+158 °F] T5, T130°C Ta = -20 .. +80°C [-4 ..+176 °F]
Fluid temperature range [2)]	T6, T110°C Ta = -20 .. +60°C [-4 ..+140 °F] T120°C Ta = -20 .. +70°C [-4 ..+158 °F] T5, T130°C Ta = -20 .. +80°C [-4 ..+176 °F]
Storage temperature range	-40 .. +100 °C [-40 .. +212 °F]
CE-mark, UKCA - mark	EN 61000-6-1/ 2/ 3/ 4 ; EN 60079-0/ 1/ 31
Vibration resistance acc. to DIN EN 60068-2-6 at 10 ..500Hz	≤ 10 g ≤ 5 g with connection head
Protection class to IEC 60529 [3)] ISO 20653	IP 68 (versions with connection head), IP 69 IP 6K9K
Other data	
Supply voltage [4)]	8 .. 30 V DC
Residual ripple of supply voltage	≤ 5%
Current consumption	≤ 25 mA
Life expectancy	> 1 million cycles, 0 .. 100 % FS
Weight (without connection head)	approx. 450 g

Note:

Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided

FS (**F**ull **S**cale) = relative to the full measuring range

1) The accuracy is valid when the transmitter is installed in a steel or stainless steel manifold
2) Temperature limitations of the individual electrical connections see page 1 of this manual
3) For connection head: Cable gland must cover IP 68 and the ½-14 NPT thread must be sealed by thread sealant.
4) "Limited Energy" powered according to CAN/UL 61010 (Clause 9.4), Class 2 UL1310, LPS (CAN/UL 60950)

7 Model code to identify the delivered part

HPT 5 0 X - X - XXXX - S - D - XXX (psi) 72 inch

Electrical connection
9 = 1/2-14 NPT conduit (male thread), single leads
G = 1/2-14 NPT conduit (male thread), jacketed cable
J = Connection head (aluminum)
Q = Connection head (stainless steel)
U = M20x1.5 conduit (male thread), jacketed cable
W = M20x1.5 conduit (male thread), single leads

Output signal
C = 4 .. 20 mA, 3 conductor

Measuring ranges
Measuring ranges are shown in bar or psi
(in case of psi, see additional declaration)

Housing material
S = Stainless steel

Approval
D = $_{c}CSA_{us}$ Explosion Proof (seal not required)
ATEX Flame Proof
IECEx Flame Proof

Modification Number
000 = Standard

On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

(psi)
Additional declaration for psi version (not applicable for bar version)

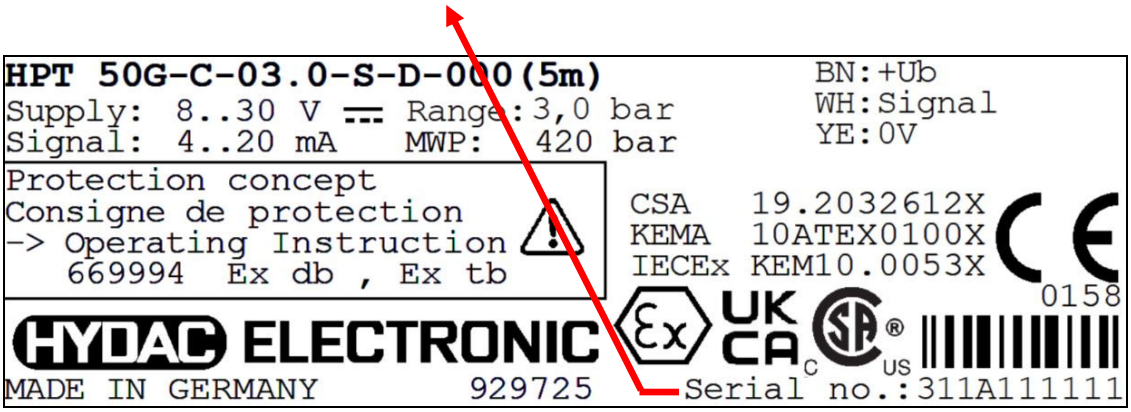
Cable length
Indications in m or inch

8 Serial Number

The serial number includes the calendar week and year of manufacture of the unit, adjacent to the sequential serial number.

Configuration of serial number (SN): xyykzzzzzz

X	Manufacturing date	e.g. : 3 → 2023
yy	Calendar week	e.g.: 11 → CW 11
k	Change control status	e.g. : -, A, B, …
zzzzzz	Sequential serial number	e.g. : 111111



9 Pin connection

Conduit with single leads
or connection head (screw terminal)

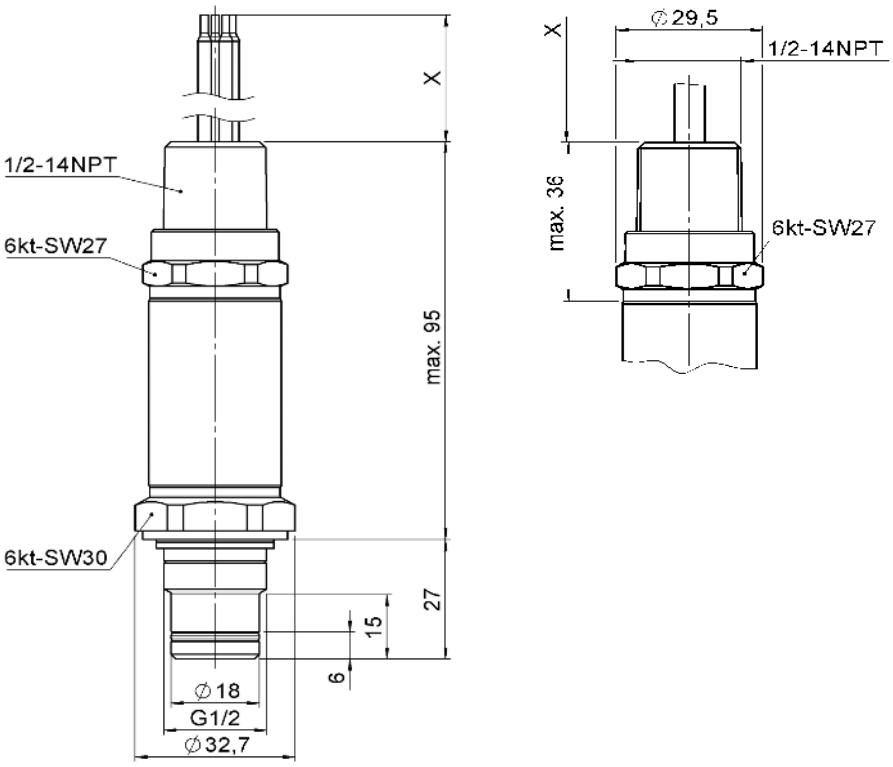
Lead	HPT 509 / HPT 50W HPT 50J / HPT 50Q
red	+ supply
white	Signal
black	0 V
green-yellow	PE / housing

Conduit (jacketed cable)

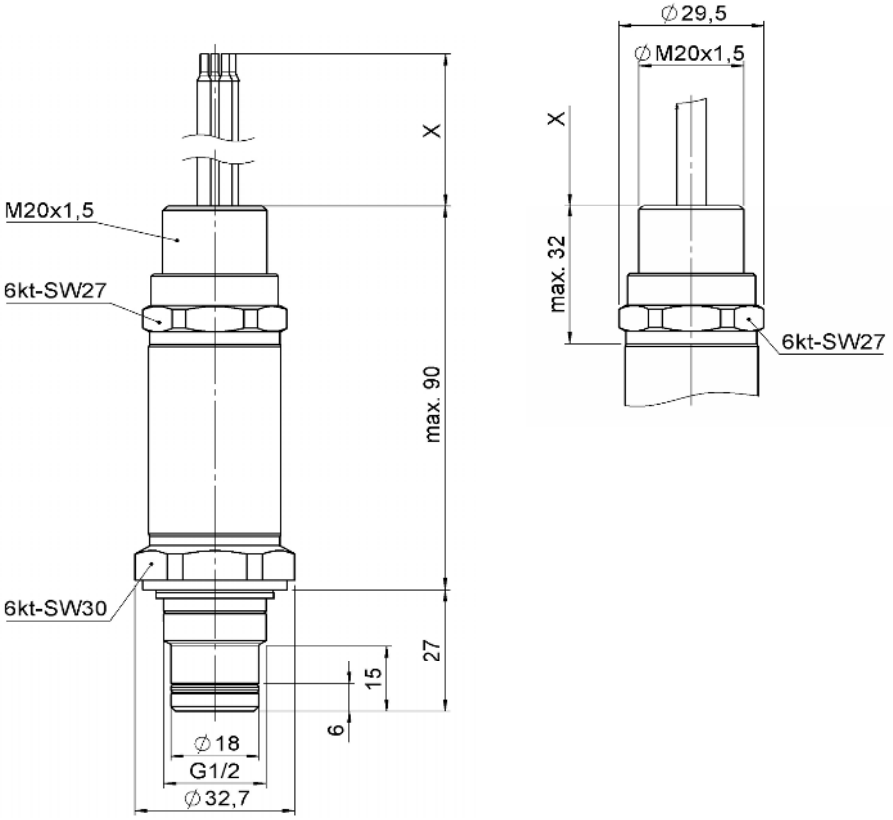
Lead	HPT 50G / HPT 50U
brown	+ supply
white	Signal
yellow	0 V
green	n.c.

10 Dimensions

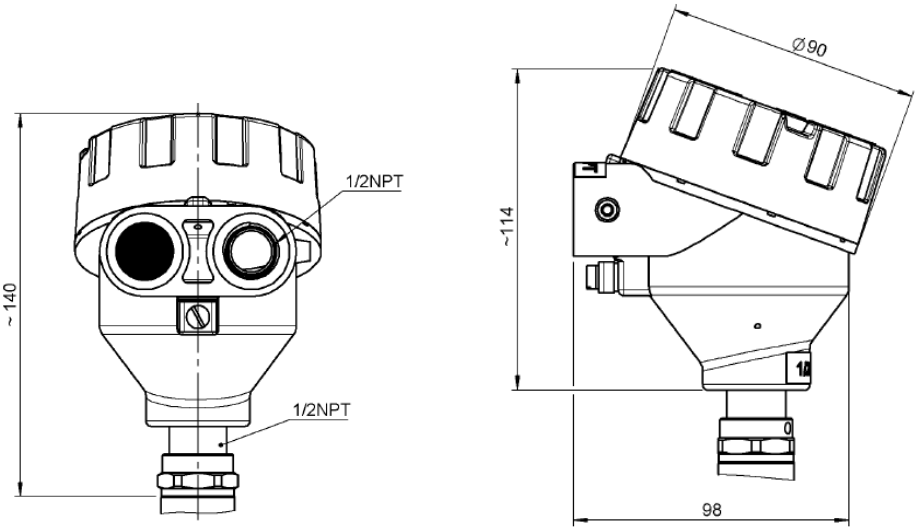
10.1 With ½-14 NPT Conduit



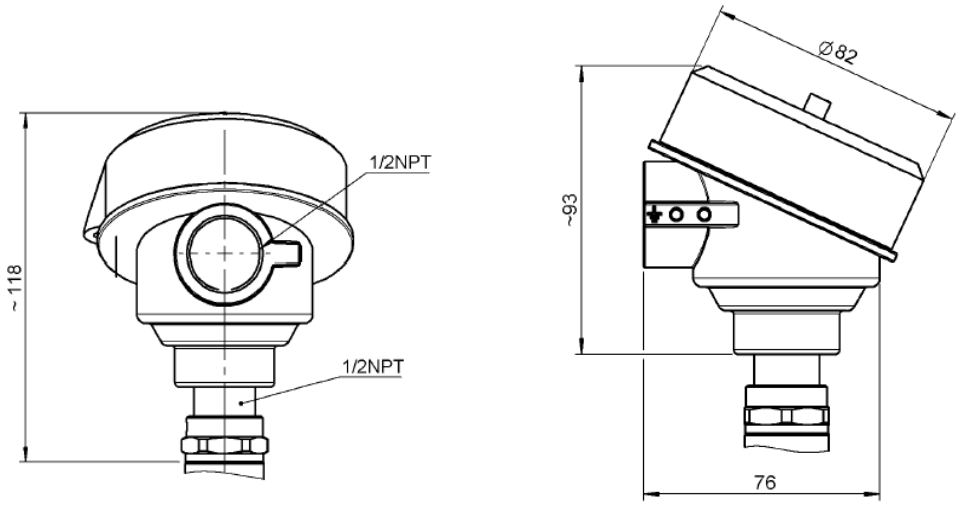
10.2 With M20x1.5 Conduit



10.3 With connection head aluminum



10.4 With connection head stainless steel



HYDAC ELECTRONIC GMBH
Hauptstraße 27
D-66128 Saarbrücken
Germany

Web: www.hydac.com
E-Mail: electronic@hydac.com
Tel.: +49-(0)6897-509-01
Fax: +49 (0)6897 509-1726

HYDAC Service
If you have any questions concerning repair work, please do not hesitate to contact HYDAC Service:

HYDAC SERVICE GMBH
Hauptstr. 27
D-66128 Saarbrücken
Germany

Tel.: +49-(0)6897-509-1936
Fax: +49 (0)6897 509-1933

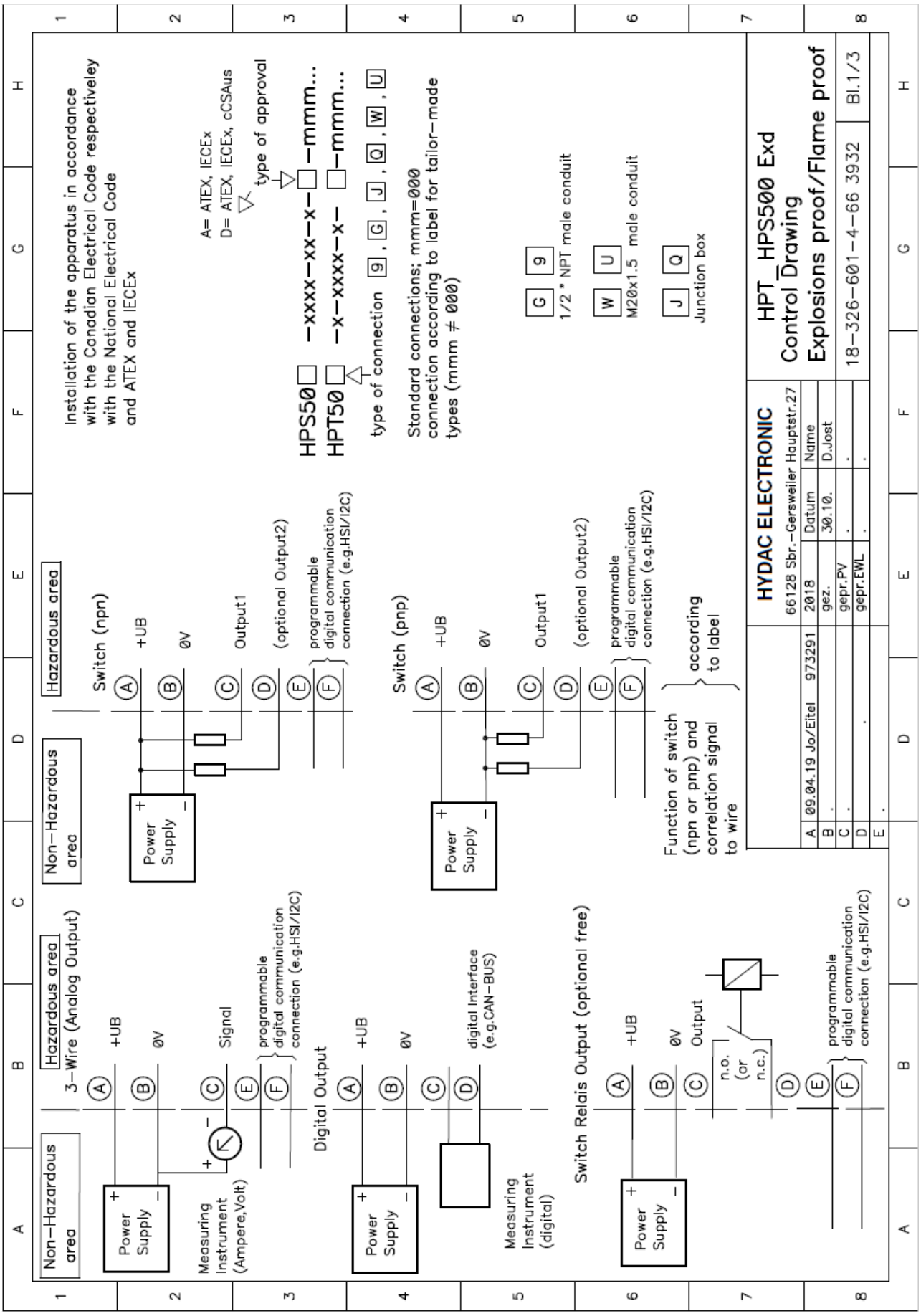
NOTE

The information and particulars provided in this manual apply to the operating conditions and applications described herein. For applications or operating conditions not described, please contact the relevant technicaldepartment.

If you have any questions, suggestions, or encounter any problems of a technical nature, please contact your Hydac representative.

Subject to technical modifications.

A1 Kontrollzeichnungen / Control drawings



Mise à la terre:

Les exigences liées aux normes (voir spécification techniques) ne seront respectées,que si le boîtier du capteur est correctment relié à la terre.La compensation de potentiel,doit nécessairement etre réalisée.Si des prises MiniMess sont utilisées,le boîtier de chacune d'elles doît etre mis à la terre séparément.

- L appareil (capteur) doit etre mis à la terre pendant l'installation.
- La conformité de la mise à la terre,doit être approuvée par l'organisme local d'inspection,ayant juridiction.
- Si un fil vert est disponible,celui-ci peut être utilisé pour une mise à la terre supplémentaire de l'appareil, par contre ce fil ne peut pas être utilisée seul en tant que connexion à la terre.

Grounding:

The requirements of the standards (see technical specifikations) cannot be satisfied unless the unit's housing is properly grounded. Potential equalization has to be provided. When using hose mounting, the housing has to be grounded separately.

- The devices must be grounded during installation.
- The suitability of the grounding shall be subject to the acceptance of the local inspection authority having jurisdiction.

- If a green wire is available,it can be used additionally for grounding,but may not be used on it's own as the grounding connection

cCSAus

Class I Groups A,B,C,D, T6, T5
Class II Groups E,F, G, T110°C...130°C
Class III
Type 4

Class I Zone 1 AEx db IIC T6, T5 Gb
Ex db IIC T6, T5 Gb
Zone 21 AEx tb IIIC T110°C...130°C Db
Ex tb IIIC T110°C...130°C Db

Seal not required
Aucun joint d'étanchéité n'est requis

ATEX

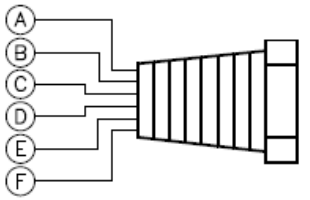
I M2 Ex db I Mb
II 2G Ex db IIC T6,T5 Gb
II 2D Ex tb IIIC T110°C...130°C Db

IECEx

Ex db I Mb
Ex db IIC T6,T5 Gb
Ex tb IIIC T110°C...130°C Db

T6,T5,T110°C... T130°C if noted on label
si indiqué sur l'étiquette

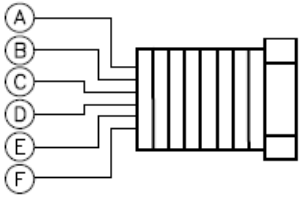
9 , G 1/2" NPT male conduit



9 = single leads

G = jacketed cable

W , U M20x1,5 male conduit



W = single leads

U = jacketed cable

For detailed wiring information see product label

Ambient Temperature max. +60°C (T6,T110°C)
Ambient Temperature max. +70°C (T120°C)
Ambient Temperature max. +80°C (T5;T130°C)

A	09.04.19 Jo/Eitel 973291	2018	Datum	Name
B	.	gez.	30.10.	D.Jost
C	.	gepr.PV	.	.
D	.	gepr.EWL	.	.
E	.			

HYDAC ELECTRONIC
66128 Sbr.-Gersweiler Hauptstr.27

HPT_HPS500 Exd
Control Drawing
Explosion proof/Flame proof

18-326-601-4-66 3932 Bl.2/3

Explosion Proof cCSAus; Enclosures for use in
Class I Div. 1 Groups A,B,C,D, T6, T5
Class II Div. 1 Groups E,F,G, T110°C...130°C
Class III
Type 4
Class I Zone1 AEx db IIC T6,T5 Gb
Ex db IIC T6,T5 Gb

ATEX

II 2G Ex db IIC T6,T5 Gb
II 2D Ex tb IIIC T110°C...130°C Db

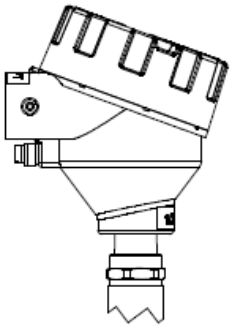
IECEx

Ex db IIC T6,T5 Gb
Ex tb IIIC T110°C...130°C Db

For Class I Group A installation and for Zone
Conduit seal is required within 18 inches of enclosure

Pour une installation de Classe I Groupe A et pour Zone
A partir d'une distance de 18 pouces du boîtier,un joint
d'étanchéité doit être installé

Junction Box



J: Aluminium

Explosion Proof cCSAus; Enclosures for use in
Class I Div. 1 Groups B,C,D, T6, T5
Class II Div. 1 Groups E,F,G,T110°C...130°C
Class III
Type 4

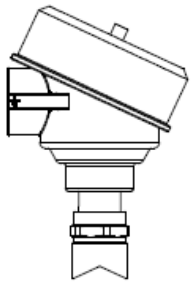
ATEX

II 2G Ex db IIC T6,T5 Gb
II 2D Ex tb IIIC T110°C...130°C Db

IECEx

Ex db IIC T6,T5 Gb
Ex tb IIIC T110°C...T130°C Db

Open circuit before removing cover
Ouvrir le Circuit avant d'enléver couvercle



Q: Stainless steel

Ambient Temperature
max. +60°C (T6;T110° C)
max. +70°C (T120 °C)
max. +80°C (T5;T130° C)

T6,T5, T110°C... T130°C if noted on label
si indiqué sur l'étiquette

		HYDAC ELECTRONIC 66128 Sbr.–Gersweiler Hauptstr.27			HPT_HPS500 Exd Control Drawing Explosions proof/Flame proof
A	09.04.19 Jo/Eitel 973291	2018	Datum	Name	
B	.	gez.	30.10.	D.Jost	
C	.	gepr.PV	.	.	18–326–601–4–66 3932 Bl.3/3
D	.	gepr.EWL	.	.	
E	.				

A2 Zertifikat ATEX / Certificate ATEX

CERTIFICATE

EU-Type Examination

(1)

(2) Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU

(3) EU-Type Examination Certificate Number: **KEMA 10ATEX0100 X** Issue Number: **6**

(4) Product: **Pressure Transducers, Pressure Switches, Temperature Transducers, Flow Rate Transmitters, Bladder Integrity Sensors and Connection heads**

(5) Manufacturer: **HYDAC Electronic GmbH**

(6) Address: **Hauptstraße 27, 66128 Saarbrücken-Gersweiler, Germany**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number NL/KEM/ExTR10.0022/06.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0 : 2018 **EN 60079-1 : 2014** **EN 60079-31 : 2014**

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

I M 2 Ex db I Mb
II 2 G Ex db IIC T6...T4 Gb
II 2 D Ex tb IIIC T110 °C...T130 °C Db

Date of certification: 17 august 2022

DEKRA Certification B.V.

L.G. van Schie
Certification Manager

Page 1/4

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-product-safety.com Registered Arnhem 09085396

(13) **SCHEDULE**

(14) to EU-Type Examination Certificate KEMA 10ATEX0100 X Issue No. 6

(15) Description

HDA 4xxx

Electronic Pressure Transducer with analogue output.

Depending on the applied pressure on the sensor cell a proportional output signal is generated. One version has an additional temperature sensor.
It provides an analogue signal or analogue signal combined with a HART digital protocol.

EDS 4xxx

Electronic Pressure switch.

Depending on the applied pressure on the sensor cell a proportional internal signal is generated. Depending on the factory set fixed value or programmable set point an electronic switch changes its status.

ETS 4xxx

Temperature Transducer

Depending on the applied temperature on the sensor a proportional output signal is generated. One version has an additional pressure sensor.
It provides an analogue signal or analogue signal combined with a HART digital protocol.

HFT 31xx

Flow Rate Transmitter

An impellor driven by the speed of the flow of the liquid or gas through a turbine generates a signal pick up by a proximity switch, converted to a linear analogue current signal and is available via a HART interface.

BIS 1xxx

Bladder Integrity Sensor

The bladder status signal is provided as a switching signal. Depending on the version, the temperature or pressure signal measured by the sensor is converted into a proportional analogue current signal and is available via a HART interface.

HPT 5xx

Electronic differential pressure transmitter with analogue output.

Depending on the applied differential pressure a piston with integrated magnet is shifted linearly. A Hall sensor is detecting the position and passes on the position to the evaluation electronics which calculates the output signal.

HPS 5xx

Same as HPT 5xx but with an output with an electronic switch.

Optional Connection Heads

Limatherm Type XD-AD and Pushna Type 1016 PSEM Ex d and Ex t certified enclosures.

(13) **SCHEDULE**

(14) to EU-Type Examination Certificate **KEMA 10ATEX0100 X** Issue No. 6

Type Codes

Pressure Transducer	HDA 4abc-d-eeee(e)-fg-hhh(psi)iiij	
	HDA 4aZc-d-eeee(e)-kkk-fg-hhh(psi)iiij	
	HDA 4abc-F21-eeee(e)-fg-hhh(iiij)	Standard
	HDA 4abc-F21-eeee(e)-T-III-fg-hhh(iiij)	With temperature measurement
	HDA 4aZc-F21-eeee(e)-kkk-fg-hhh(iiij)	With front flush membrane
Pressure Switch	EDS 4abc-dddd(d)-ef-gh-iiii(psi)kkkl	
Temperature Transducer	ETS 45ab-c-d-eee-fff-gggh	
	ETS 4abc-F21-kkk-f-hhh(iiij)	Standard
	ETS 4abc-F21-kkk-P-eeee(e)-fg-hhh(iiij)	With pressure measurement
Flow Rate Transmitter	HFT 31bc-F21-eeee-S-X-f-hhh(iiij)	
Bladder Integrity Sensor	BIS 1abc-F21-eeee(e)-fg-hhh(iiij)	
Difference Pressure Transmitter	HPT 50c-d-eeee-S-f-hhh(psi)iiij	
	HPS 50c-pppp-ef-S-g-hhh(psi)iiij	

Rated ambient temperature range
xxx-xxxx-F21-xxx
-40 °C to +60 °C for T6 and T110 °C
-40 °C to +70 °C for T5 and T120 °C

EDS with max. 2 x 1,2 A output signal
-40 °C to +80 °C for T4
-40 °C to +60 °C for T110 °C
-40 °C to +70 °C for T120 °C
-40 °C to +80 °C for T130 °C

Other
-40 °C to +60 °C for T6 and T110 °C
-40 °C to +70 °C for T120 °C
-40 °C to +80 °C for T5 and T130 °C

For details of the variables refer to Annex 1.

Electrical data

Supply Voltage: 30 Vdc / 6 Vdc for 10%..90% ratiometric
Input Current: 25 mA or 1,3 A

For details refer to Annex 1.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/KEM/ExTR10.0022/06.

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Form 227A
Version 2 (2019-06)

(13) **SCHEDULE**

(14) to EU-Type Examination Certificate KEMA 10ATEX0100 X Issue No. 6

(17) **Specific conditions of use**

The ambient temperature range of the equipment is as indicated at 'Rated ambient temperature range' above.

When used in mining applications a conduit hose or pipe is to be installed at the ½ 14 NPT or M20x1,5 electrical connection and the cable or leads are to run inside the conduit until an area is reached which is not contaminated with chemicals.

Electrostatic charging on non-metallic parts shall be avoided. See installation instructions for details.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/KEM/ExTR10.0022/06.

(20) **Certificate history**

Issue 1 -	212423500	Initial certificate.
Issue 2 -	215511300	Minor constructional changes and addition of Ex tb
Issue 3 -	216122900	Minor constructional changes, model Type BIS 1000-F added and Name change of the Pressure Transmitter.
Issue 4 -	218185700	Update to the latest standards, changed ambient temperature range and Addition of new type of Temperature Transducer.
Issue 5 -	222806200	Addition of: transmitter HPT500 and HPS500, electrical connection M20x1,5 and optional connection heads; Adjustment of type/model codes
Issue 6 -	226247500	Assesment per EN IEC 60079-0: 2018 Minor constructional changes

Page 4/4

Form 227A
Version 2 (2019-06)

A3 Zertifikat IECEx / Certificate IECEx

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx KEM 10.0053X**	Page 1 of 5	Certificate history:
Status:	**Current**	Issue No: 6	Issue 5 (2019-05-27) Issue 4 (2015-09-04) Issue 3 (2014-02-06) Issue 2 (2012-11-23) Issue 1 (2011-03-31) Issue 0 (2010-08-05)
Date of Issue:	2022-08-17		
Applicant:	**HYDAC Electronic GmbH** Hauptstraße 27 66128 Saarbrücken-Gersweiler **Germany**		
Equipment:	**Pressure Transducers, Pressure Switches, Temperature Transducers, Flow Rate Transmitters, Bladder Integrity Sensors and Connection heads**		
Optional accessory:			
Type of Protection:	**Ex db, Ex tb**		
Marking:	Ex db I Mb Ex db IIC T6...T4 Gb Ex tb IIIC T110 °C...T130 °C Db		

Approved for issue on behalf of the IECEx Certification Body: **L.G. van Schie**

Position: **Certification Manager**

Signature: (for printed version)

Date: (for printed version) 2022-08-17

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

DEKRA Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands

IECEx Certificate of Conformity

Certificate No.: **IECEx KEM 10.0053X** Page 2 of 5

Date of issue: 2022-08-17 Issue No: 6

Manufacturer: **HYDAC Electronic GmbH**
Hauptstraße 27
66128 Saarbrücken-Gersweiler
Germany

Manufacturing locations: **HYDAC Electronic GmbH**
Hauptstraße 27
66128 Saarbrücken-Gersweiler
Germany

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

NL/KEM/ExTR10.0022/06

Quality Assessment Report:

DE/BVS/QAR06.0017/13

IECEx Certificate of Conformity

Certificate No.: **IECEx KEM 10.0053X** Page 3 of 5

Date of issue: 2022-08-17 Issue No: 6

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

HDA 4xxx

Electronic Pressure Transducer with analogue output.
Depending on the applied pressure on the sensor cell a proportional output signal is generated.
One version has an additional temperature sensor.
It provides an analogue signal or analogue signal combined with a HART digital protocol.

EDS 4xxx
Electronic Pressure switch.
Depending on the applied pressure on the sensor cell a proportional internal signal is generated.
Depending on the factory set fixed value or programmable set point an electronic switch changes its status.

ETS 4xxx
Temperature Transducer.
Depending on the applied temperature on the sensor a proportional output signal is generated.
One version has an additional pressure sensor.
It provides an analogue signal or analogue signal combined with a HART digital protocol.

HFT 31xx
Flow Rate Transmitter.
An impellor driven by the speed of the flow of the liquid or gas through a turbine generates a signal pick up by a proximity switch, converted to a linear analogue current signal and is available via a HART interface.

BIS 1xxx
Bladder Integrity Sensor.
The bladder status signal is provided as a switching signal. Depending on the version, the temperature or pressure signal measured by the sensor is converted into a proportional analogue current signal and is available via a HART interface.

HPT 5xx
Electronic differential pressure transmitter with analogue output.
Depending on the applied differential pressure a piston with integrated magnet is shifted linearly. A Hall sensor is detecting the position and passes on the position to the evaluation electronics which calculates the output signal.

HPS 5xx
Same as HPT 5xx but with an output with an electronic switch.

Optional Connection Heads
Limatherm Type XD-AD and Pushna Type 1016 PSEM Ex d and Ex t certified enclosures.

SPECIFIC CONDITIONS OF USE: YES as shown below:
The ambient temperature range of the equipment is as indicated at 'Rated ambient temperature range' below.

When used in mining applications a conduit hose or pipe is to be installed at the ½-14 NPT or M20x1.5 electrical connection and the cable or leads are to run inside the conduit until an area is reached which is not contaminated with chemicals.

Electrostatic charging on non-metallic parts shall be avoided. See installation instructions for details.

IECEx Certificate of Conformity

Certificate No.: **IECEx KEM 10.0053X** Page 4 of 5

Date of issue: 2022-08-17 Issue No: 6

Equipment (continued):

Type Codes

Pressure Transducer
HDA4abc-d-eeee(e)-fg-hhh(psi)iiij
HDA 4aZc-d-eeee(e)-kkk-fg-hhh(psi)iiij
HDA 4abc-F21-eeee(e)-fg-hhh(iiij) Standard
HDA 4abc-F21-eeee(e)-T-lll-fg-hhh(iiij) With temperature measurement
HDA 4aZc-F21-eeee(e)-kkk-fg-hhh(iiij) With front flush membrane

Pressure Switch
EDS 4abc-dddd(d)-ef-gh-iiii(psi)kkkl

Temperature Transducer
ETS 45ab-c-d-eee-fff-gggh
ETS 4abc-F21-kkk-f-hhh(iiij) Standard
ETS 4abc-F21-kkk-P-eeee(e)-fg-hhh(iiij) With pressure measurement

Flow Rate Transmitter
HFT 31bc-F21-eeee-S-X-f-hhh(iiij)

Bladder Integrity Sensor
BIS 1abc-F21-eeee(e)-fg-hhh(iiij)

Difference Pressure Transmitter
HPT 50c-d-eeee-S-f-hhh(psi)iiij
HPS 50c-pppp-ef-S-g-hhh(psi)iiij

Rated ambient temperature range
xxx-xxxx-F21-xxx
-40 °C to +60 °C for T6 and T110 °C
-40 °C to +70 °C for T5 and T120 °C

EDS with max. 2 x 1.2 A output signal
-40 °C to +80 °C for T4
-40 °C to +60 °C for T110°C
-40 °C to +70 °C for T120°C
-40 °C to +80 °C for T130°C

Other
-40 °C to +60 °C for T6 and T110 °C
-40 °C to +70 °C for T120 °C
-40 °C to +80 °C for T5 and T130 °C

For details of the variables refer to Annex 1.

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Certificate No.: **IECEx KEM 10.0053X** Page 5 of 5

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Assessment per IEC 60079-0 : 2017 Ed. 7.0
Minor constructional changes

Annex:

226247500-ExTR10.0022.06 Annex1_1.pdf

A4 Zertifikat CSA / Certificate CSA

CSA GROUP™

Certificate of Compliance

Certificate: 2032612 **Master Contract:** 224264

Project: 70194250 **Date Issued:** July 18, 2019

Issued to: **Hydac Electronic GmbH**
Dept. ETW
Hauptstrasse 27
66128
Saarbrücken
Germany

Attention: **Alwin Eitel**

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

C US

Issued by: Jens Ensminger

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

Class I, Groups A, B, C and D T6 resp. T5 resp. T4A; Class II, Groups E, F and G T110°C resp. T120 °C resp. T130 °C; Class III; Type 4
Class I, Zone 1 AEx db IIC T6 resp. T5 resp. T4A Gb;
Zone 21 AEx tb IIIC T110°C resp. T120 °C resp. T130 °C Db
Ex db IIC T6 resp. T5 resp. T4A Gb; Ex tb IIIC T110°C resp. T120 °C resp. T130 °C Db

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Certificate: 2032612 **Master Contract:** 224264
Project: 70194250 **Date Issued:** July 18, 2019

- **Pressure Transducer - Standard** **HDA 4abc-d-eeee(e)-fg-hhh(psi)iiij**

a = accuracy	4 or 7 or 8
b = mechanical connection (pressure port)	any alphanumeric character (not critical to certification)
c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
d = signal	any alphabetic character
e = pressure range	4 digits for range in bar or psi 5 digits for range in psi > 9999
f = approval	D or E (not approved for db and tb)
g = gauge type	any alphabetic character (not for f = E)
h = modification number	alphanumeric value
(psi)	(psi) for psi-version or "" for bar-version
I = length of cable	numeric value
j = cable length definition	Inch or " or cm or m
bar-version	iiij in brackets

Technical data:

Rated Supply Voltage	30 Vdc
Output Signal	0..10 V or 0..20 mA or 4..20 mA
or	
Rated Supply voltage	6 Vdc
Output Signal	10-90% ratiometric
Rated Input Current	25 mA
Maximum working pressure	37 to 30000 psi (0.26 MPa to 206.8 MPa)
Temperature	temperature code T6, T110°C: -40°C...+60°C T120°C : -40°C...+70°C temperature code T5, T130°C: -40°C...+80°C

- **Pressure Transducer – with front flash membrane** **HDA 4aZc-d-eeee(e)-kkk-fg-hhh(psi)iiij**

a = accuracy	4 or 7 or 8
Z = pressure port	front flush membrane
c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
d = signal	any alphabetic character
e = pressure range	4 digits for range in bar or psi 5 digits for range in psi > 9999
f = approval	D or E (not approved for db and tb)
g = gauge type	any alphabetic character (not for f = E)
h = modification number	alphanumeric value
(psi)	(psi) for psi-version or "" for bar-version
i = length of cable	numeric value
j = cable length definition	inch or " or cm or m
k = front flash	alphanumeric value
bar-version	iiij in brackets

Technical data:

Rated Supply Voltage	30 Vdc
Output Signal	0..10 V or 0..20 mA or 4..20 mA
or	
Rated Supply voltage	6 Vdc
Output Signal	10-90% ratiometric
Rated Input Current	25 mA
Maximum working pressure	37 to 15000 psi (0.26 MPa to 103.4 MPa)

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Temperature	temperature code T6, T110°C:	-40°C…+60°C
	T120°C :	-40°C…+70°C
	temperature code T5, T130°C:	-40°C…+80°C

- **Pressure Transducer – HART** **HDA 4abc-F21-eeee(e)-fg-hhh(iiij)** **Standard**
  HDA 4abc-F21-eeee(e)-T-III-fg-hhh(iiij) **with Temp. Measurem.**
  HDA 4aZc-F21-eeee(e)-kkk-fg-hhh(iiij) **with front flush membr.**

a = accuracy	4 or 7 or 8
b = mechanical connection (pressure port)	any alphanumeric character (not critical to certification)
c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
F21 = signal	4..20 mA (with HART Interface)
e = pressure range	4 digits for range in bar or 5 digits for range in psi
f = approval	D
g = gauge type	any alphabetic character
h = modification number	alphanumeric value
i = length of cable	numeric value
j = cable length definition	inch or " or cm or m
Z = pressure port	front flush membrane
k = pressure port	3 digits alphanumeric
T = Temperature measurement	digital with HART Interface
III = probe length	in mm, standard = 007

Technical data:

Rated Supply Voltage	30 Vdc	
Output Signal	4..20 mA	
Rated Input Current	25 mA	
Maximum working pressure	HDA 4abc-F21-eeee(e)-fg…	30000 psi (206.8 MPa)
	HDA 4aZc-F21-eeee(e)-kkk-fg…	30000 psi (206.8 MPa)
	HDA 4abc-F21-eeee(e)-T-III-fg…	10007.6 psi (69.0 MPa)
Temperature	temperature code T6, T110°C:	-40°C…+60°C
	temperature code T5, T120°C:	-40°C…+70°C

- **Pressure Switch – Standard "approval E - CSA"** **EDS 410-aaaa-b-f-ccc(psi)ddde**

a = pressure range	numeric value
b = number of switching outputs	1
f = approval	E (not approved for db and tb)
c = modification number	alphanumeric value
(psi)	(psi) for psi-version or "" for bar-version
d = length of cable	numeric value
e = cable length definition	inch or " or cm or m
bar-version	ddde in brackets

Technical data:

Rated Supply Voltage	30 Vdc	
Output Signal	e = 1: 1.2A max	
Rated Input Current	1.3 A	
Maximum working pressure	100 to 30000 psi (0.69 MPa to 206.8 MPa)	
Temperature	temperature code T6:	-40°C…+60°C
	temperature code T5:	-40°C…+80°C

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Certificate: 2032612 **Master Contract:** 224264
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- **Pressure Switch – Standard** **EDS 4abc-dddd(d)-ef-gh-iii(psi)kkkl**

a = accuracy	4 or 7
b = mechanical connection (pressure port)	any alphanumeric character (not critical to certification)
c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
d = pressure range	4 digits for range in bar or psi 5 digits for range in psi > 9999
e = number of switching outputs	1 or 2
f = output type	F or P
g = approval	D
h = gauge type	any alphabetic character
i = modification number	alphanumeric value
(psi)	(psi) for psi-version or "" for bar-version
k = length of cable	numeric value
l = cable length definition	inch or " or cm or m
bar-version	kkkl in brackets

Technical data:

Rated Supply Voltage	30 Vdc
Output Signal	e = 1: 1,2A max e = 2: 0,6A max per output
Rated Input Current	1.3 A
Maximum working pressure	37 to 30000 psi (0.26 MPa to 206.8 MPa)
Temperature	temperature code T6, T110°C: -40°C...+60°C T120°C : -40°C...+70°C temperature code T5, T130°C: -40°C...+80°C

or

Rated Supply Voltage	30 Vdc
Output Signal	2: 1.2A max per Output
Rated Input Current	2.5 A
Maximum working pressure	37 to 30000 psi (0.26 MPa to 206.8 MPa)
Temperature	temperature code T110°C: -40°C...+60°C T120°C : -40°C...+70°C temperature code T4A, T130°C: -40°C...+80°C

- **Temperature Transducer – Standard** **ETS 45ab-c-d-eee-fff(gggh)**

a = mechanical connection	any alphanumeric character (not critical to certification)
b = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
c = signal	any alphabetic character
d = approval	D
e = probe length	numeric value in mm [max 500]
f = modification number	alphanumeric value
g = length of cable	numeric value
h = cable length definition	inch or " or cm or m

Technical data:

Rated Supply Voltage	30 Vdc
Output Signal	0..10 V, 4..20 mA
Rated Input Current	25 mA
Maximum working pressure	short probe sensor 8702 psi (60.0 MPa) long probe sensor 1813 psi (12.5 MPa)

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Project: 70194250 **Date Issued:** July 18, 2019

Temperature	temperature code T6, T110°C:	-40°C…+60°C
	T120°C :	-40°C…+70°C
	temperature code T5, T130°C:	-40°C…+80°C

- **Temperature Transducer – HART** **ETS 4abc-F21-kkk-f-hhh(iiij)** **Standard**
  ETS 4abc-F21-kkk-P-eeee(e)-fg-hhh(iiij) **with Press. Measurem.**

a = accuracy	1 or 5
b = mechanical connection	any alphanumeric character (not critical to certification)
c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
F21	4..20 mA Signal (with HART Interface)
e = pressure range	4 digits for range in bar and 5 digits for range in psi
k = probe length	in mm [max 500]
f = approval	D
g = gauge type	any alphabetic character
h = modification number	alphanumeric value
i = length of cable	numeric value
j = cable length definition	inch or " or cm or m
P = Pressure measurement option	digital with HART Interface

Technical data:

Rated Supply Voltage	30 Vdc	
Output Signal	4..20 mA	
Rated Input Current	25 mA	
Maximum working pressure		
ETS 4abc-F21-kkk-f-hhh(iiij) short probe sensor	8702 psi (60.0 MPa)	
ETS 4abc-F21-kkk-f-hhh(iiij) long probe sensor	1813 psi (12.5 MPa)	
ETS 4abc-F21-kkk-P-eeeee-fg-hhh(iiij)	8702 psi (60.0 MPa)	
Temperature	temperature code T6, T110°C:	-40°C…+60°C
	temperature code T5, T120°C:	-40°C…+70°C

- **Flow Rate Transmitter - HART** **HFT 31bc-F21-eeee-S-X-f-hhh(iiij)**

b = process connection	any alphanumeric character (not critical to certification)
c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
F21	4..20 mA Signal (with HART Interface)
e = measuring range	4 digits for range l/min
S = housing material	Stainless Steel
X = housing version	
f = approval	D
h = modification number	alphanumeric value
i = length of cable	numeric value
j = cable length definition	inch or " or cm or m

Technical data:

Rated Supply Voltage	30 Vdc	
Output Signal	4..20 mA	
Rated Input Current	25 mA	
Maximum working pressure	6090 psi (42.0 MPa)	
Temperature	temperature code T6, T110°C:	-40°C…+60°C
	temperature code T5, T120°C:	-40°C…+70°C

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Certificate: 2032612 **Master Contract:** 224264
Project: 70194250 **Date Issued:** July 18, 2019

- **Bladder Integrity Sensor - HART** **BIS 1abc-F21-eeee(e)-fg-hhh(iiij)**

a = signal / bladder status	alphanumeric value (not critical for certification)
b = mechanical connection	2 = G1/2 DINA 3852 male
c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
F21	4..20 mA Signal (with HART Interface)
e = measuring range	4 digits for range in bar and 5 digits for range in psi
f = approval	D or A
g = gauge type	any alphabetic character
h = modification number	alphanumeric value
i = length of cable	numeric value
j = cable length definition	inch or " or cm or m

Technical data:

Output Signal	4..20 mA output
Rated Supply Voltage	30 Vdc
Rated Input Current	25 mA
Maximum working pressure	10007.6 psi (69.0 MPa)
Temperature	temperature code T6, T110°C: -40°C…+60°C temperature code T5, T120°C: -40°C…+70°C

- **Difference Pressure Transmitter - Standard** **HPT 50c-d-eeee-S-f-hhh(psi)iiij**

c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
d = signal	any alphabetic character
e = measuring range	numeric value
S = housing material	Stainless Steel
f = approval	D
h = modification number	alphanumeric value
(psi)	(psi) for psi-version or "" for bar-version
i = length of cable	numeric value
j = cable length definition	inch or " or cm or m
bar-version	iiij in brackets

Technical data:

Rated Supply Voltage	30 Vdc
Output Signal	0..10 V or 0..20 mA
or	
Rated Supply voltage	6 Vdc
Output Signal	10-90% ratiometric
Rated Input Current	25 mA
Maximum working pressure	6090 psi (42.0 MPa)
Temperature	temperature code T6, T110°C: -40°C…+60°C T120°C : -40°C…+70°C temperature code T5, T130°C: -40°C…+80°C

- **Difference Pressure Switch - Standard** **HPS 50c-pppp-ef-S-g-hhh(psi)iiij**

c = electrical connection	9 or G or J (not approved for tb) or Q (not approved for Group A, db and tb) or W or U
p = measuring range	numeric value
e = number of switching outputs	1 or 2
f = set point type	F= Fix or P= programmable
S = housing material	Stainless Steel

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g = approval	D	
h = modification number	alphanumeric value	
(psi)	(psi) for psi-version or "" for bar-version	
i = length of cable	numeric value	
j = cable length definition	inch or " or cm or m	
bar-version	iiij in brackets	

Technical data:

Rated Supply Voltage	30 Vdc	
Output Signal	e = 1: 1.2A max	
	e = 2: 0.6A max per output	
Rated Input Current	1.3 A	
Maximum working pressure	6090 psi (42.0 MPa)	
Temperature	temperature code T6, T110°C:	-40°C…+60°C
	T120°C :	-40°C…+70°C
	temperature code T5, T130°C:	-40°C…+80°C

Additional explanation to the type code of all models:

Electrical connection

9	=	1/2-14 NPT Conduit (male), Single leads
G	=	1/2-14 NPT Conduit (male), jacketed cable
J	=	Connection head, Aluminium
Q	=	Connection head, stainless Steel
W	=	M20x1.5 Conduit (male) [Draw.no: 4261296; long version], Single Leads
U	=	M20x1.5 Conduit (male) [Draw.no: 4261296; long version], jacketed cable
0	=	Special type of connection (not part of CSA Certification): M20x1.5 Conduit (male) [Drawing no.: 3654343; short version]

Mechanical connection

1	=	G1/2 B DIN EN 837, male
2	=	G1/2 DIN 3852, male
3	=	M14x1,5 DIN 3852, male
4	=	G1/4 A DIN 3852, male
5	=	7/16-20 UNF 2B (SAE4), female
6	=	7/16-20 UNF 2A (SAE4), male
7	=	9/16-18 UNF 2A (SAE6), male
8	=	1/4-18 NPT, male
9	=	G1/4 DIN 3852 female
A	=	9/16-18 UNF 2B (SAE6), female
B	=	F250C, Autoclave(9/16-18 UNF2B, female)
C	=	SF250CX20, Autoclave (7/16-20 UNF 2B female)
D	=	1/8-27 NPT male
E	=	M10x1 DIN 3852, male
F	=	1/4-18 NPT, female
G	=	G1/4 B DIN EN 837, male
H	=	3/4-16 UNF 2A (SAE8), male
J	=	G3/4 A DIN 3852 male
K	=	1/4-18 NPTF, male
L	=	1/4-18 NPTF, female
M	=	M12x1.5 DIN 3852 male
N	=	M20x1 without seal
P	=	AM12S38 DIN 3852 male

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Certificate: 2032612 **Master Contract:** 224264
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R	=	M14x1.5 - ISO6149-2 male
S	=	M18x1.5 male
T	=	G1/8 DIN 3852, male
U	=	G3/8 DIN 3852, male
V	=	SF375CX20, Autoclave (9/16-18 UNF 2B female)
W	=	1/2-14 NPT male
Y	=	G1/2 HN 28-22 male
Z	=	flush mount process connection

I, O and Q are open for different common threads
Other threads as modification.

Standard signals

A	=	4…20mA	(2-wire)
B	=	max. range 0…10V	(3-wire)
C	=	4…20 mA	(3-wire , current source)
E	=	0…20mA	(3-wire , current source)
G	=	max. range 0…6V	(3-wire)
R	=	10%..90% Ub	(3-wire)
F21	=	4…20mA with HART Interface	

Conditions of Acceptability:

The products are required to be supplied only by certified power supply providing reinforced or double insulation for protection against electric shock with output voltages below the limits of 6.3.1 of 61010-1 or 30 V r.m.s. and 42.4 V peak or 60 V d.c and limited energy circuit according to 9.4 (LPS or Class2).

The equipment was not evaluated to flammable/explosive fluids or liquids.

Equipment is only to be installed by trained personal in accordance to the installation, set-up, operation and maintenance of comparable devices and certified as being capable of such work.

The equipment which is not direct installed to a junction box shall be connected to a conduit installation.

For BIS model: The BIS 1abc-F21-eeee(e)-fg-hhh(iii) must not be energized when the bladder sensor is located in explosive atmosphere. The sensor can be located only in safe non-hazardous area. The bladder is not covered by this certification. The BIS model is certified as a component only and its final installation must be subjected to acceptance of local authority having jurisdiction.

Notes:

1. Basic model designation is followed by alpha/numeric suffixes denoting type code.
2. The devices must be grounded during installation.
3. The suitability of the grounding shall be subject to the acceptance of the Local Authority Having Jurisdiction.

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APPLICABLE REQUIREMENTS

CAN/CSA Standard C22.2 No. 0-M91 *(Reaffirmed 2006)*	General Requirements - Canadian Electrical Code, Part II
CSA Standard C22.2 No. 25-1966 *(Reaffirmed 2000)*	Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
CSA Standard C22.2 No. 30-M1986 *(Reaffirmed 2003)*	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CAN/CSA-C22.2 No. 60079-0:15	Explosive atmospheres — Part 0: Equipment — General requirements
CAN/CSA-C22.2 No. 60079-1:16	Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d”
CAN/CSA-C22.2 No. 60079-31:15	Explosive atmospheres — Part 31: Equipment dust ignition protection by enclosure "t"
CSA Standard C22.2 No. 94.1-07 *(First Edition - September 2007)*	Enclosures for Electrical Equipment, Non-Environmental Considerations
CSA Standard C22.2 No. 94.2-07 *(First Edition - September 2007)*	Enclosures for Electrical Equipment, Environmental Considerations
CAN/CSA-C22.2 No. 61010-1-12	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements
ANSI/UL Standard 50 *(Twelfth Edition, September 2007)*	Enclosures for Electrical Equipment, Non-Environmental Considerations
ANSI/UL Standard 50E *(First Edition, September 2007)*	Enclosures for Electrical Equipment, Environmental Considerations
UL 61010-1 (Third Edition)	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements
ANSI/UL Standard 1203 *(Fourth Edition, September 2006)*	Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
UL 60079-0 Sixth Edition	Explosive atmospheres – Part 0: Equipment – General requirements
UL 60079-1 Seventh Edition	Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d”
UL 60079-31 Second Edition	Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”

Certificate: 2032612 **Master Contract:** 224264
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MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The following markings are provided on thermally printed silver polyester adhesive nameplates that are manufactured by qMik Industrie-Kennzeichnungen, GmbH, Type qM 442. The nameplates are applied to the outside of the devices' stainless steel enclosures.

The Markings may alternatively be laser engraved onto the stainless steel enclosures.

All products

- Manufacturer name: "Hydac Electronic, GmbH", "Hydac Electronic", "Hydac" or equivalent or CSA Master Contract Number "224264", adjacent to the CSA Mark in lieu of manufacturer name (Note: May be omitted on small labels);
- Certificate Number CSA 19.2032612X;
- Model number: as specified in the PRODUCTS section, above;
- Electrical ratings: as specified in the PRODUCTS section, above;
- Ambient temperature rating: as specified in the PRODUCTS section, above;
- Manufacturing date in MMYY format, or serial number, traceable to month of manufacture;
- Enclosure type: "Type 4 Enclosure", "Type 4" or equivalent;
- The CSA Mark with or without "C" and "US" indicators, as shown on the Certificate of Conformity;
- Hazardous Location designation: as specified in the PRODUCTS section, above (may be abbreviated);
- Temperature code: as specified in the PRODUCTS section, above;
- Maximum Working Pressure (MWP): as specified in the PRODUCTS section, above;
- Wiring connections: denotes wiring function by wire color or numbers, as appropriate.

HDA-4000 and EDS-410 Approval E products:

- Reference to Installation Instructions: "Install per 663203".

HDA-4xxx and EDS-4xxx Approval D products with vents

- Reference to Installation Instructions: "Install per 663931"; or
- HDA4xxx: Reference to Operating Instructions (includes Control Drawing: 663931): "Protection concept → Operating Instruction 669835".
  EDS 4xxx: Reference to Operating Instructions (includes Control Drawing: 663931): "Protection concept → Operating Instruction 669837".

Certificate: 2032612 **Master Contract:** 224264
Project: 70194250 **Date Issued:** July 18, 2019

ETS-45xx products:

- Reference to Installation Instructions: "Install per 663928"; or
- Reference to Operating Instructions (includes Control Drawing: 663928): "Protection concept → Operating Instruction 669836".

HDA4 ETS4 HFT3 F21/ HART models:

- Reference to Installation Instructions: "Install per 663929"; or
- HDA 4 : Reference to Operating Instructions (includes Control Drawing: 663929): "Protection concept → Operating Instruction 669905".
  ETS 4: Reference to Operating Instructions (includes Control Drawing: 663929): "Protection concept → Operating Instruction 669907".
  HFT 4: Reference to Operating Instructions (includes Control Drawing: 663929): "Protection concept → Operating Instruction 669908".

BIS F21 model:

- Reference to Installation Instructions: "Install per 663930"; or
- Reference to Operating Instructions (includes Control Drawing: 663930): "Protection concept → Operating Instruction 669906".

HPT HPS model:

- Reference to Installation Instructions: "Install per 663932"; or
- Reference to Operating Instructions (includes Control Drawing: 663932): "Protection concept → Operating Instruction 669994".

A5 EU-Konformitätserklärung / EU declaration of conformity

HYDAC ELECTRONIC

HYDAC Electronic GmbH, Hauptstraße 27, 66128 Saarbrücken

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E-Mail: support.electronic@hydac.com
website: www.hydac.com
see also: General Terms of Use (AGB)

CE

EU-Konformitätserklärung / EU declaration of conformity 18 / 229a / 2023

Hiermit erklären wir in alleiniger Verantwortung, dass das nachfolgend bezeichnete Produkt auf Grund seiner Konzeption und Bauart, sowie in der von uns in Verkehr gebrachten Ausführung, den grundlegenden Sicherheits- und Gesundheitsanforderungen der unten aufgeführten Richtlinien/Verordnungen entspricht.

We herewith declare under our sole responsibility that, with regard to its design and construction and to the model brought onto the market by us, the product designated below conforms with the fundamental safety and health requirements of the directive/regulation listed below.

Bezeichnung / Designation	Differenzdruck-Messumformer für explosionsgefährdete Umgebungen (Druckfeste Kapselung) / Differential pressure transmitter for potentially explosive atmospheres (Flameproof enclosure)
Typ / Type	HPT 5xx ... D ...
EMV Richtlinie / EMV Guideline	2014/30/EU
Normen / Standards	EN 61000-6-1:2007 EN 61000-6-2:2005 EN 61000-6-3:2012 EN 61000-6-4:2011
Baumusterprüfbescheinigung / Type Examination Certificate	KEMA 10ATEX0100X DEKRA Certification B.V.

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ATEX		2014/34/EU
	I M2 Ex db I Mb	EN IEC 60079-0:2018
	II 2G Ex db IIC T6,T5 Gb	EN 60079-1:2014
	II 2D Ex tb IIIC T110°C…T130°C Db	EN 60079-31:2014

14th March 2023	ppa C. Krupp	C. Krupp
Datum / Date	Name	(CE-authorized person)

Geschäftsführer:
Dr. Franz Josef Eckle, Mathias Dieter,
Dr. Carlos-Javier Moran-Iglesias

Sitz der Gesellschaft: Saarbrücken
Registergericht:
Saarbrücken, HRB 8707

USt-Identnummer: DE 138 277 433
Steuernummer: 040/110/50684

Bankverbindung in Saarbrücken:

Commerzbank AG
Nr. 3168888 BLZ 590 800 90
BIC DRESDEFF590
IBAN DE77 5908 0090 0316 8888 00

Deutsche Bank AG
Nr. 0355800, BLZ 590 700 00
BIC DEUTDE5M555
IBAN DE54 5907 0000 0035 5800 00

Landesbank Saar
Nr. 5250006 BLZ 590 500 00
BIC SALADE55XXX
IBAN DE51 5905 0000 0005 2500 06

HypoVereinsbank
Nr. 353568264, BLZ 590 200 90
BIC HYVEDEMM432
IBAN DE58 5902 0090 0353 5682 64

Deutsche Postbank
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IBAN DE67 5901 0066 0000 2036 66

A6 UKCA-Konformitätserklärung / UKCA declaration of conformity

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UK CA

UKCA – Declaration of Conformity

18 / 20a / 2023

We herewith declare under our sole responsibility that, with regard to its design and construction and to the model brought onto the market by us, the product designated below conforms with the fundamental safety and health requirements of the standards listed below.

Designation	Differential pressure transmitter for potentially explosive atmospheres (Flameproof enclosure)
Type	HPT 5xx ... D ...
EMV Richtlinie / EMV Guideline	2014/30/EU
Designated Standards	EN 61000-6-1:2007 EN 61000-6-2:2005 EN 61000-6-3:2012 EN 61000-6-4:2011
Type Examination Certificate	KEMA 10ATEX0100X DEKRA Certification B.V.

HYDAC ELECTRONIC

ATEX		2014/34/EU
	I M2 Ex db I Mb	EN IEC 60079-0:2018
	II 2G Ex db IIC T6,T5 Gb	EN 60079-1:2014
	II 2D Ex tb IIIC T110°C…T130°C Db	EN 60079-31:2014

14th March 2023	ppa C. Krupp	C. Krupp
Datum / Date	Name	(CE-authorized person)

Geschäftsführer:
Dr. Franz Josef Eckle, Mathias Dieter,
Dr. Carlos-Javier Moran-Iglesias

Sitz der Gesellschaft: Saarbrücken
Registergericht:
Saarbrücken, HRB 8707

USt-Identnummer: DE 138 277 433
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BIC DEUTDE5M555
IBAN DE54 5907 0000 0035 5800 00

Landesbank Saar
Nr. 5250006 BLZ 590 500 00
BIC SALADE55XXX
IBAN DE51 5905 0000 0005 2500 06

HypoVereinsbank
Nr. 353568264, BLZ 590 200 90
BIC HYVEDEMM432
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Notes

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HYDAC Service
If you have any questions concerning repair work, please do not hesitate to contact HYDAC Service:

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NOTE

The information and particulars provided in this manual apply to the operating conditions and applications described herein. For applications or operating conditions not described, please contact the relevant technicaldepartment.

If you have any questions, suggestions, or encounter any problems of a technical nature, please contact your Hydac representative.

Subject to technical modifications.