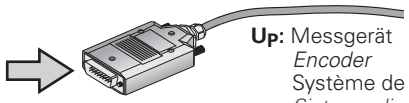


**$U_P$:** Messgerät
*Encoder*
Système de mesure
*Sistema di misura*
Sistema de medida

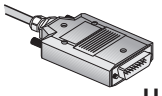
**$U_P$: DC 5 V** ± 0.25 V
(max. 130 mA)

**$\overline{U_{aS}}$:** Störungssignal
*Fault detection signal*
Signal de perturbation
*Segnale di malfunzionamento*
Señal de avería

**$\overline{U_{aS}}$ = High:** ✓

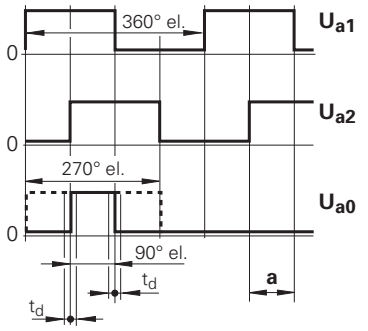
**$\overline{U_{aS}}$ = Low:** ⚠

## TTL



**$U_{a1}$, $U_{a2}$, $U_{a0}$**

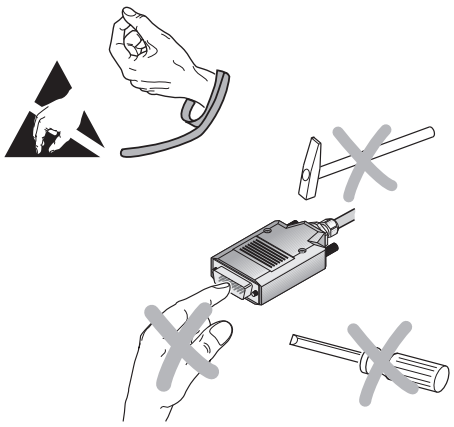
**$\overline{U_{a1}}$, $\overline{U_{a2}}$, $\overline{U_{a0}}$, $\overline{U_{aS}}$**

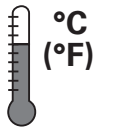



$t_d \leq 20$ ns

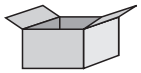
$U_H \geq 2.5$ V ($-I_H \leq 20$ mA)
$U_L \leq 0.5$ V ($I_L \leq 20$ mA)

min. Flankenabstand **a**
*Min. edge separation **a***
écart min. entre les fronts **a**
*min. distanza tra i fronti **a***
distancia mín. entre flancos **a**





**°C**
**(°F)**



–30 ... 80 °C
(–22 ... 176 °F)

# HEIDENHAIN

Montageanleitung
*Mounting Instructions*
Instructions de montage
*Istruzioni di montaggio*
Instrucciones de montaje

# APE 371

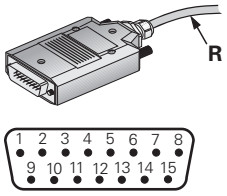
**nur gültig für**
***Valid only for***
**Valable seulement pour**
***Valido solo per***
**Válido sólo para**

**ID 591765-14**
**ID 591765-31**
**ID 591765-32**
**ID 591765-34**
**ID 591765-36**
**ID 591765-5x**
**ID 591765-7x**

CE

**7/2013**

Außenschirm mit Gehäuse verbunden
*External shield connected to housing*
Blindage extérieur connecté au boîtier
*Schermo del cavo collegato alla carcassa*
Apantallado exterior unido a la carcasa





$R_1 \geq 10$ mm | $R_2 \geq 50$ mm

| 1 | 9 | 3 | 11 | 14 | 7 | 4 | 2 | 12 | 10 | 13 | 15 | 8 | 6 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $U_{a1}$ | $\overline{U_{a1}}$ | $U_{a2}$ | $\overline{U_{a2}}$ | $U_{a0}$ | $\overline{U_{a0}}$ | $U_P$ | 0 V | Sensor $U_P$ | Sensor 0 V | $\overline{U_{aS}}$ | 1) | LIMITS | LIMITS | / |

**1)** Im Normalbetrieb mit 0 V der Folgeelektronik verbinden.
Bei Anlegen von 5 V Umschaltung TTL/11 $\mu A_{SS}$.

*In normal operation, connect with the 0 V line of the subsequent electronics.*
*Apply 5 V and switch to TTL/11 $\mu A_{PP}$.*

En fonctionnement normal, relier au 0 V de l'électronique consécutive.
Avec application de 5 V commutation TTL/11 $\mu A_{CC}$.

*In funzionamento normale collegare con 0 V alla elettronica successiva.*
*Per applicare 5 V commutazione TTL/11 $\mu A_{SS}$.*

En funcionamiento normal conectar con 0 V de la electrónica subsiguiente.
Al aplicar 5 V conmutación TTL/11 $\mu A_{PP}$.

⚠ **Achtung:** Die Montage und Inbetriebnahme ist von einer qualifizierten Fachkraft unter Beachtung der örtlichen Sicherheitsvorschriften vorzunehmen.
Die Steckverbindung darf nur spannungsfrei verbunden oder gelöst werden.

***Note:*** *Mounting and commissioning is to be conducted by a qualified specialist under compliance with local safety regulations.*
*Do not engage or disengage any connections while under power.*

**Attention:** Le montage et la mise en service doivent être assurés par un personnel qualifié dans le respect des consignes de sécurité locales.
Le connecteur ne doit être connecté ou déconnecté qu'hors potentiel.

***Attenzione:*** *Il montaggio e la messa in funzione devono essere eseguite da personale qualifucato nel rispetto delle norme di sicurezza locali.*
*I cavi posso essere collegati o scollegati solo in assenza di tensione.*

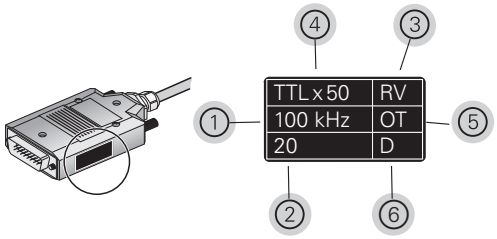
**Atención:** El montaje y la puesta en marcha deben ser realizados por un especialista cualificado, observando las prescripciones locales de seguridad.
Conectar o desconectar el conector sólo en ausencia de tensión.

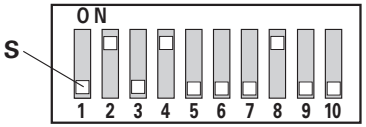

**DR. JOHANNES HEIDENHAIN GmbH**
Technical support, measuring systems ☎ +49 8669 31-3104 · E-mail: service.ms-support@heidenhain.de



633274-93 · Ver00 · Printed in Germany · 7/2013 · H

# APE 371




**S1, S10** = reserviert (immer auf off)
*Reserved (always set to off)*
Réservé (toujours sur off)
*Riservato (sempre su off)*
Reservado (siempre en off)

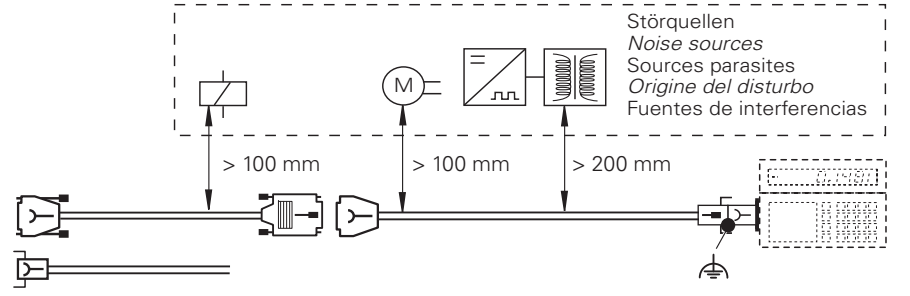
| Referenzimpuls-Breite<br>*Reference pulse width*<br>Largeur impulsion de référence<br>*Ampiezza impulso di riferimento*<br>Ancho del impulso de referencia | ③<br>**S2** |
|---|---|
| **R3:** 270° | on |
| **RV:** 90° | off |

| min. Flankenabstand **a**<br>*Min. edge separation **a***<br>écart min. entre les fronts **a**<br>*min. distanza tra i fronti **a***<br>distancia mín. entre flancos **a** | | | | max. Eingangs-Frequenz, Toleranz ±5 %<br>*Max. input frequency, tolerance ±5%*<br>fréquence d'entrée max., tolérance ±5 %<br>*max frequenza ingresso, Tolleranza ±5 %*<br>frecuencia máx. de entrada, tolerancia ±5 % ① | | | |
|---|---|---|---|---|---|---|---|
| | **S6** | **S7** | **S8** | **TTL x 20** | **TTL x 25** | **TTL x 50** | **TTL x 100** |
| ② **16** | 0.050 µs | off | off | off | 200 kHz | 160 kHz | 80 kHz | 40 kHz |
| | 0.100 µs | off | off | on | 100 kHz | 80 kHz | 40 kHz | 20 kHz |
| | 0.220 µs | off | on | off | 50 kHz | 40 kHz | 20 kHz | 10 kHz |
| | 0.345 µs | off | on | on | 33 kHz | 26 kHz | 13 kHz | 6.6 kHz |
| | 0.465 µs | on | off | off | 25 kHz | 20 kHz | 10 kHz | 5 kHz |
| | 0.585 µs | on | off | on | 20 kHz | 16 kHz | 8 kHz | 4 kHz |
| | 0.950 µs | on | on | off | 12.5 kHz | 10 kHz | 5 kHz | 2.5 kHz |
| | 1.925 µs | on | on | on | 6.25 kHz | 5 kHz | 2.5 kHz | 1.25 kHz |
| **20** | 0.040 µs | off | off | off | 250 kHz | 200 kHz | 100 kHz | 50 kHz |
| | 0.080 µs | off | off | on | 125 kHz | 100 kHz | 50 kHz | 25 kHz |
| | 0.175 µs | off | on | off | 62.5 kHz | 50 kHz | 25 kHz | 12.50 kHz |
| | 0.275 µs | off | on | on | 41.67 kHz | 33.33 kHz | 16.67 kHz | 8.33 kHz |
| | 0.370 µs | on | off | off | 31.25 kHz | 25 kHz | 12.50 kHz | 6.25 kHz |
| | 0.465 µs | on | off | on | 25 kHz | 20 kHz | 10 kHz | 5 kHz |
| | 0.760 µs | on | on | off | 15.63 kHz | 12.5 kHz | 6.25 kHz | 3.13 kHz |
| | 1.540 µs | on | on | on | 7.81 kHz | 6.25 kHz | 3.13 kHz | 1.56 kHz |

| Interpolation<br>*Interpolation*<br>Interpolation<br>*Interpolazione*<br>Interpolación | ④<br>**S3** | **S4** |
|---|---|---|
| **TTL x 20** | off | off |
| **TTL x 25** | off | on |
| **TTL x 50** | on | off |
| **TTL x 100** | on | on |

| ⑤<br>$U_{a1}$, $\overline{U_{a1}}$, $U_{a2}$, $\overline{U_{a2}}$, ➤ $\overline{U_{aS}}$ = low | **S5** |
|---|---|
| **MT:** hochohmig (Three State)<br>*High impedance (three-state)*<br>à haute impédance (tristate)<br>*alta impendenza (tristate)*<br>alta impedancia (Three State) | on |
| **OT:** nicht hochohmig<br>*Low impedance*<br>à basse impédance<br>*bassa impendenza*<br>sin alta impedancia | off |

| ⑥<br>**Limits** | **S9** |
|---|---|
| **D:** aktiviert<br>*Activated*<br>activé<br>*attivo*<br>activado | on |
| **K:** nicht aktiviert<br>*Not activated*<br>non activé<br>*non attivato*<br>no activado | off |




Ersatzweise mit Schirmschelle
*Shield clamp as substitute*
Collier de blindage en alternative
*Schermatura alternativa con clip*
Modo de sustitución con abrazadera apantallada