

**DATA SWITCHES – MOMENTARY (HDT, SDK) ACTION**

**BENEFITS**

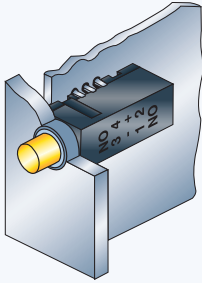
- High life time with maximum quality materials
- Compact design with SMD assembly (HDT)
- Suitable for state-of-the-art soldering techniques (HDT)
- Extremely good illumination (HDT)
- Various contact materials for every field of application
- Tested to degree of protection IP 40 and IP 65 (HDT)

		HDT	SDK
<b>Electrical data</b>			
Switching voltage max.	[V]	50 DC / 60 AC	50 DC / 125 AC
Switching current max.		200 mA	silver 2 A AC / 1.2 A DC gold 80 mA / AC DC
Lifetime (at rated breaking capacity)		$2 \times 10^5$	$> 10^5$
Initial contact resistance, new	[mΩ]	< 30	silver < 10 / gold < 20
Initial contact resistance, after lifetime	[mΩ]	< 50	
Insulation resistance	[Ω]	$> 10^{10}$	$> 10^9$
Contact bounce time	[ms]	typ. 0.5	
<b>Mechanical data</b>			
Actuating force	IP 40 [N]	$1.5 \pm 0.3$	3 – 5
	IP 65 [N]	$2.5 \pm 0.5$	
Contact travel	NO [mm]	$1.2 \pm 0.2$	$2.4 \pm 0.3$
End contact travel	[mm]	$2.5 \pm 0.1$	$3.3 \pm 0.4$
End stop strength	[N]	> 100	> 100
Lifetime	[operations]	$> 5 \times 10^5$	$> 2 \times 10^5$
<b>Other data</b>			
Degree of protection		IP 40 / IP 65	IP 40
Solderability	(CECC 00802 and IEC 68-2-20) (IEC 68-2-20 test Ta, method 1A) [°C/s]		235 / 2
Soldering heat resistance IEC 68-2-20 Test Tb, method 1 [°C/s]	IEC 68-2-20 test Tb, method 1A, print-mounting [°C/s]	260 / 10	260 / 5
	IEC 68-2-20 test Tb, method 2, print-mounting [°C/s]	350 / 10	
	CECC 00802 classification B, SMT-mounting [°C/s]	215 / 40	
	CECC 00802 classification C, SMT-mounting [°C/s]	260 / 10	
	Ambient temperature	[°C]	-40 – +85
Storage temperature	[°C]	-40 – +85	-40 – +85
Cleaning agent proof		Zestron	
Flux proof		given	
<b>Materials</b>			
Socket, cover, contact unit, carrier ring		Thermoplast PA 4.6	Thermoplast PC
Button non-illuminated		Thermoplast PA 4.6	Thermoplast PC
Button illuminated		Thermoplast PES	
Sealing ring		Silicon tempered	
Terminals		CuZn, 3 μm Ag, hot tinned	
Contacts		CuBe2 HM, 5 μm Ag	gold (2 μ Au on hard silver)

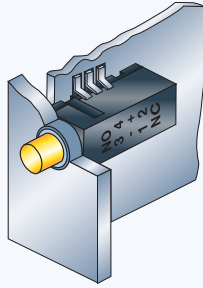
LED, see page 29

## DIMENSIONS SWITCHES-MOMENTARY (HDT, SDK) ACTION

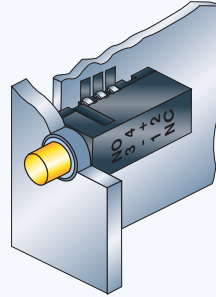
### CONSTRUCTION



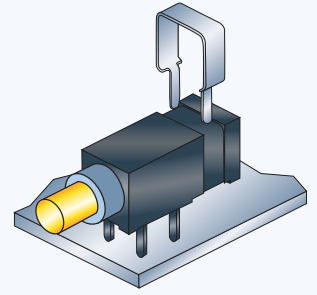
HDT Through hole



HDT Gullwing

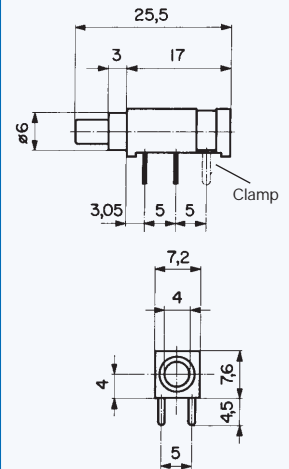
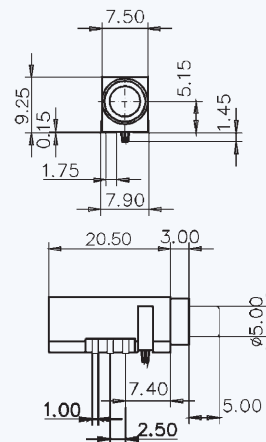
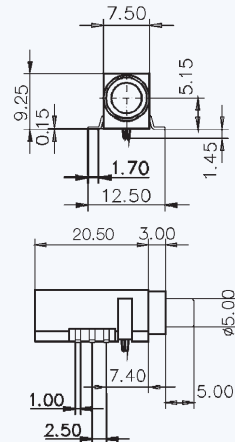
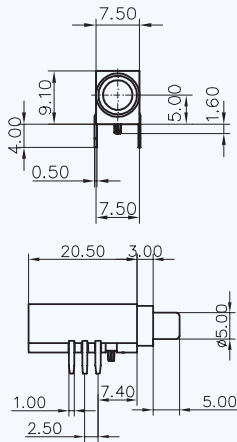


HDT J-Lead

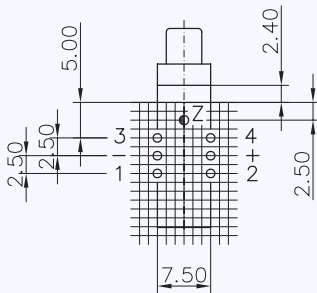


SDK

### DIMENSIONS



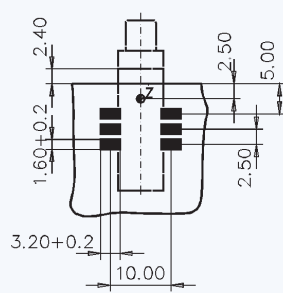
### DRILLING DIAGRAM/SOLDER PADS



Drilling diagram = 1.25 mm

Drilling for pin location  $\phi = \text{Ø}1.2 + 0.1$

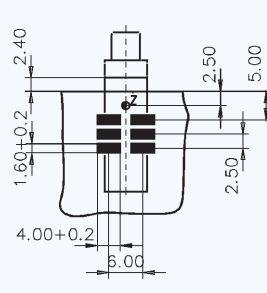
Cut out  $\text{Ø}8\text{mm}$



Drilling diagram = 1.25 mm

Drilling for pin location  $\phi = \text{Ø}1.2 + 0.1$

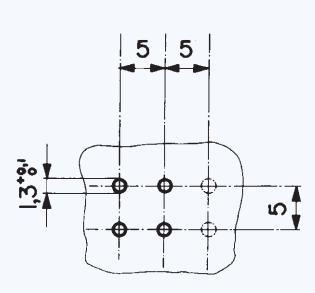
Cut out  $\text{Ø}8\text{mm}$



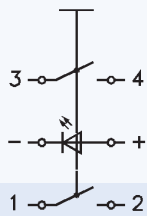
Drilling diagram = 1.25 mm

Drilling for pin location  $\phi = \text{Ø}1.2 + 0.1$

Cut out  $\text{Ø}8\text{mm}$

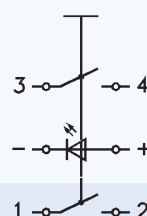


### CIRCUIT DIAGRAM



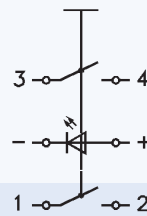
fixed contact 1 pole

NO



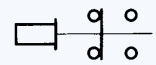
fixed contact 1 pole

NO



fixed contact 1 pole

NO



OVERVIEW HDT SWITCHES – MOMENTARY ACTION WITH SMALL BUTTON  
AND SDK SWITCHES – MOMENTARY ACTION – NON-ILLUMINATED



In addition to the versions with the small button, further versions with a large button and switching functions are available on request for HDT.

HDT	HDT	SDK	SDK
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FEATURES

Illumination	non-illuminated	non-illuminated	non-illuminated	non-illuminated
Degree of protection	IP 40	IP 65	IP 40	IP 40
Contact material			Ag	Au

PART NUMBER \*

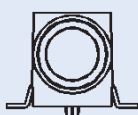
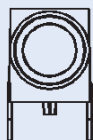
Switching functions										
HDT NO 1-pole	1241.1	x 01.	x 00	1241.1	x 11.	x 00				
HDT NO 2-pole	1241.1	x 02.	x 00	1241.1	x 12.	x 00				
		x	x		x	x				
		x	x		x	x				
NC/NO							0041.040	x	0041.041	x
Terminal types										
A	Through hole	7		7						
B	Gullwing	8		8						
C	J-Lead	9		9						
Colour of small button										
	red		3		3		2		2	
	green		5		5					
	black		7		7		1		1	
Addition										
	Clamp for SDK						0701.0049		0701.0049	

Terminal types:

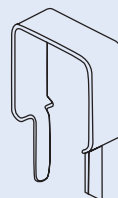
A Through hole

B Gullwing

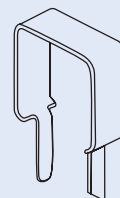
C J-lead



SDK Clamp



SDK Clamp



\* X in the Part No. must be replaced by the desired version

## OVERVIEW HDT SWITCHES – MOMENTARY ACTION WITH SMALL BUTTON – ILLUMINATED



In addition to the versions with the small button, further versions with a large button and switching functions are available on request for HDT.

HDT
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HDT
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### FEATURES

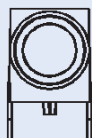
illumination	illuminated	illuminated
Degree of protection	IP 40	IP 65

### PART NUMBER \*

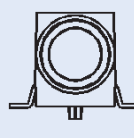
Switching functions				
HDT NO 1-pole	1241.1	x	21.9	x 0
HDT NO 2-pole	1241.1	x	22.9	x 0
<b>Terminal types</b>				
A Through hole	7			
B Gullwing	8			
C J-Lead	9			
<b>Colour of LED</b>				
red			1	
green			2	
blue			4	
<b>Colour of small button</b>				
with illumination	transparent		transparent	

Terminal types:

A Through hole



B Gullwing



C J-Lead



\* X in the Part No. must be replaced by the desired version



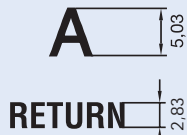
## LETTERING

Depending on the application and font, there are various lettering possibilities. The following standards can be used for key letterings:

### ORDER INDEX LETTERING

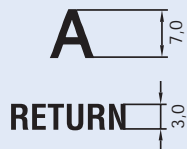
A = 001	P = 016	4 = 031	↕ = 046	EIN = 061
B = 002	Q = 017	5 = 032	→ = 047	AUS = 062
C = 003	R = 018	6 = 033	← = 048	AUF = 063
D = 004	S = 019	7 = 034	↑ = 049	AB = 064
E = 005	T = 020	8 = 035	↓ = 050	ON = 065
F = 006	U = 021	9 = 036	% = 051	OFF = 066
G = 007	V = 022	+ = 037	√ = 052	UP = 067
H = 008	W = 023	- = 038	CTRL = 053	DOWN = 068
I = 009	X = 024	. = 039	RETURN = 054	HIGH = 069
J = 010	Y = 025	x = 040	SHIFT = 055	LOW = 070
K = 011	Z = 026	÷ = 041	LOCK = 056	ON/OFF = 071
L = 012	0 = 027	* = 042	STOP = 057	START = 072
M = 013	1 = 028	= = 043	ENTER = 058	
N = 014	2 = 029	# = 044	BACK = 059	
O = 015	3 = 030	↔ = 045	LINE = 060	

### MCS 18, LETTER HEIGHTS AND FONTS



- Single characters, Univers 65
- Legends max. 6 characters in line, Univers 65
- Insert label and front foil anthracite, RAL 7016
- Characters and symbols light grey, RAL 7035

### SSM 27, LETTER HEIGHTS AND FONTS



- Single characters, Univers 65
- Legends max. 6 characters in line, Akzident-Grotesk condensed bold type
- Front foil anthracite, RAL 7016
- Characters and symbols light grey, RAL 7035



## LIGHTING TECHNOLOGY

### TECHNICAL DATA LEDs

1. Maximum ratings				
Part number		0925.9730	0925.9731	0925.9732
Light colour		red	green	yellow
Forward current, DC	$I_f$ max. [mA]	40	40	40
Power dissipation	$P_{tot}$ max. [mW]	130	130	130
2. Characteristics (typ. at $T_U = 25^\circ\text{C}$ )				
Forward voltage	at $I_f = 10\text{mA}$ , $U_f$ typ. [mA]	2.0 (< 2.6)	2.0 (< 2.6)	2.0 (< 2.6)
Luminous intensity	at $I_f = 10\text{mA}$ , $I_v$ typ. [mcd]	11.2 - 28	18 - 45	11.2 - 28
Viewing angle	$\varphi$ typ. [Degree]	50	50	50
Peak wave length	$\lambda_{peak}$ typ. [nm]	635	565	586
Reverse voltage	$U_R$ typ. [V]	5	5	5