

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

**BENEFITS**

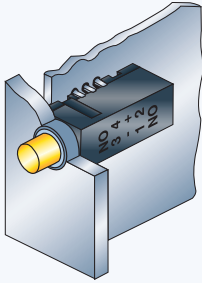
- High life time with maximum quality materials
- Compact design with SMD assembly (HDT)
- Suitable for state-of-the-art soldering techniques (HDT)
- Extremely good illumination (HDT)
- Various contact materials for every field of application
- Tested to degree of protection IP 40 and IP 65 (HDT)

		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 x > 10 <sup>5</sup>	> 10 <sup>5</sup>
Initial contact resistance, new	[mΩ]	< 30	silver < 10 / gold < 20
Initial contact resistance, after lifetime	[mΩ]	< 50	
Insulation resistance	[Ω]	> 10 <sup>10</sup>	> 10 <sup>9</sup>
Contact bounce time	[ms]	typ. 0.5	
<b>Mechanical data</b>			
Actuating force	IP 40 [N]	1.5 ± 0.3	3 – 5
	IP 65 [N]	2.5 ± 0.5	
Contact travel	NO [mm]	1.2 ± 0.2	2.4 ± 0.3
End contact travel	[mm]	2.5 ± 0.1	3.3 ± 0.4
End stop strength	[N]	> 100	> 100
Lifetime	[operations]	> 5 x 10 <sup>5</sup>	> 2 x 10 <sup>5</sup>
<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)

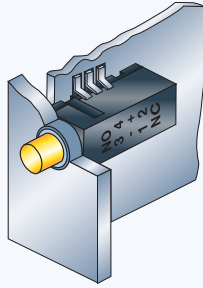
LED, see page 29

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

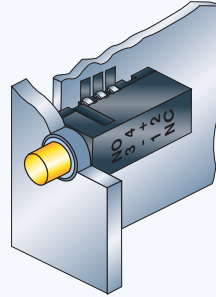
### CONSTRUCTION



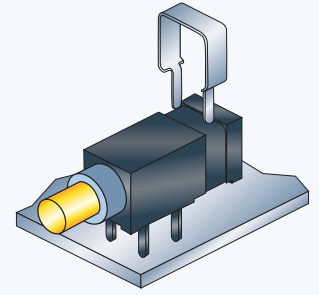
HDT Through hole



HDT Gullwing

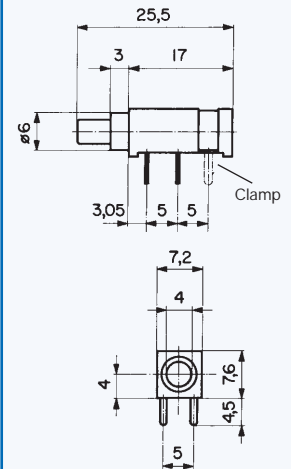
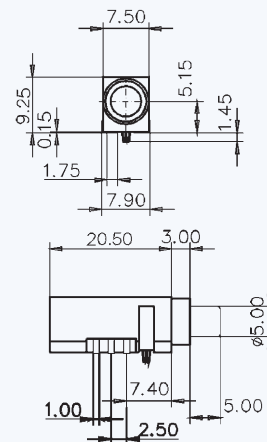
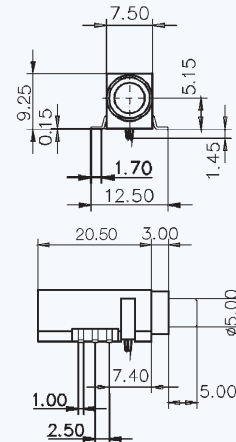
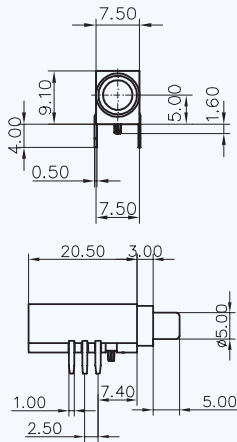


HDT J-Lead

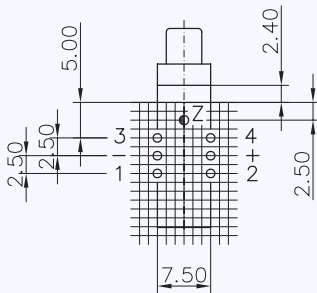


SDK

### DIMENSIONS



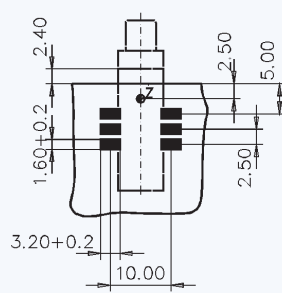
### DRILLING DIAGRAM/SOLDER PADS



Drilling diagram = 1.25 mm

Drilling for pin location  $\phi = \varnothing 1.2 + 0.1$

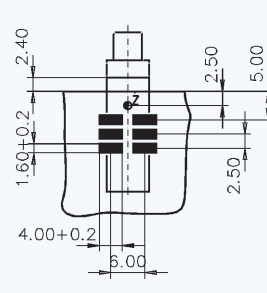
Cut out  $\varnothing 8\text{mm}$



Drilling diagram = 1.25 mm

Drilling for pin location  $\phi = \varnothing 1.2 + 0.1$

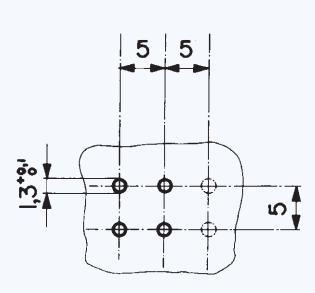
Cut out  $\varnothing 8\text{mm}$



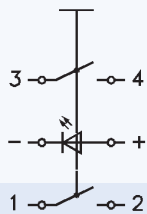
Drilling diagram = 1.25 mm

Drilling for pin location  $\phi = \varnothing 1.2 + 0.1$

Cut out  $\varnothing 8\text{mm}$

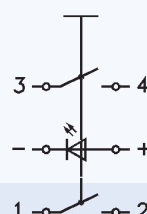


### CIRCUIT DIAGRAM



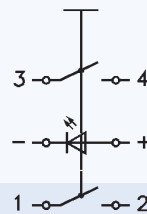
fixed contact 1 pole

NO



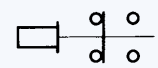
fixed contact 1 pole

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
-----	-----	-----	-----

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				2			2
green			5							
black			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

HDT

PRINTMOUNT  
MEDIUM STROKE

### FEATURES

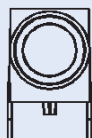
Illumination	illuminated	illuminated
Degree of protection	IP 40	IP 65

### PART NUMBER \*

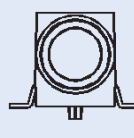
Switching functions						
HDT NO 1-pole	1241.1	x	21.9	x	0	
HDT NO 2-pole	1241.1	x	22.9	x	0	
<b>Terminal types</b>						
A Through hole	7			7		
B Gullwing	8			8		
C J-Lead	9			9		
<b>Colour of LED</b>						
red			1		1	
green			2		2	
blue			4		4	
<b>Colour of small button</b>						
with illumination	transparent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

Terminal types:

A Through hole



B Gullwing



C J-Lead



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

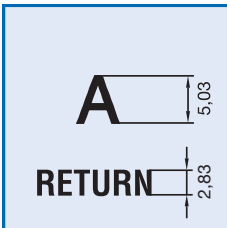


## LETTERING

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

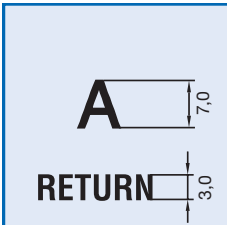
### ORDER INDEX LETTERING

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	$\theta$ typ. [Degree]	50	50	50
Peak wave length	$\lambda_{peak}$ typ. [nm]	635	565	586
Reverse voltage	$U_r$ typ. [V]	5	5	5