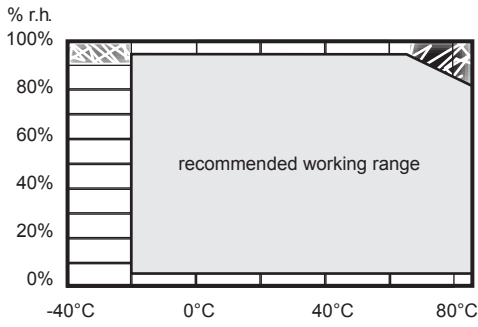
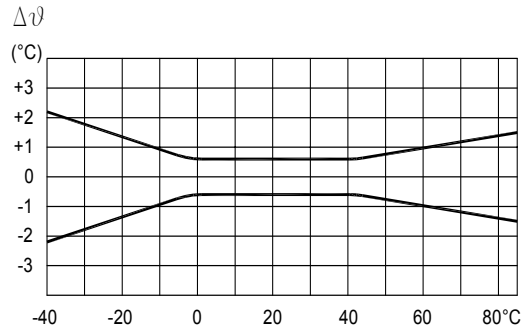


Working range of humidity and temperature



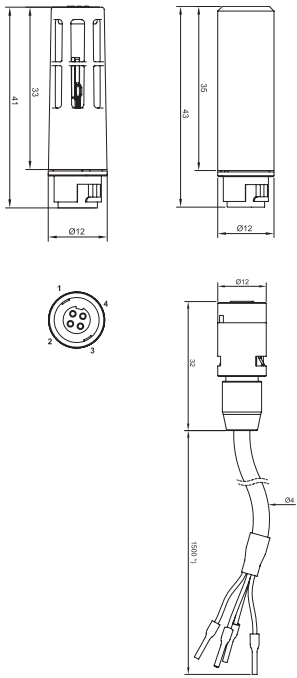
 Operating the sensor in these areas can damage it!

Temperature accuracy of the sensors



Dimensions diagrams

MCK...4S0



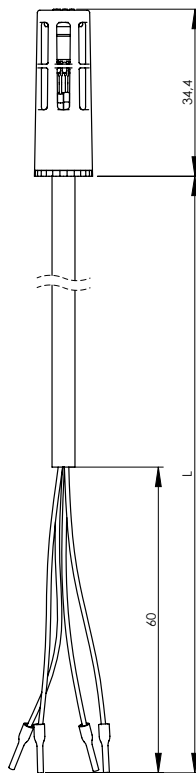
MCK.02-xx.x

order designation cable with jack:

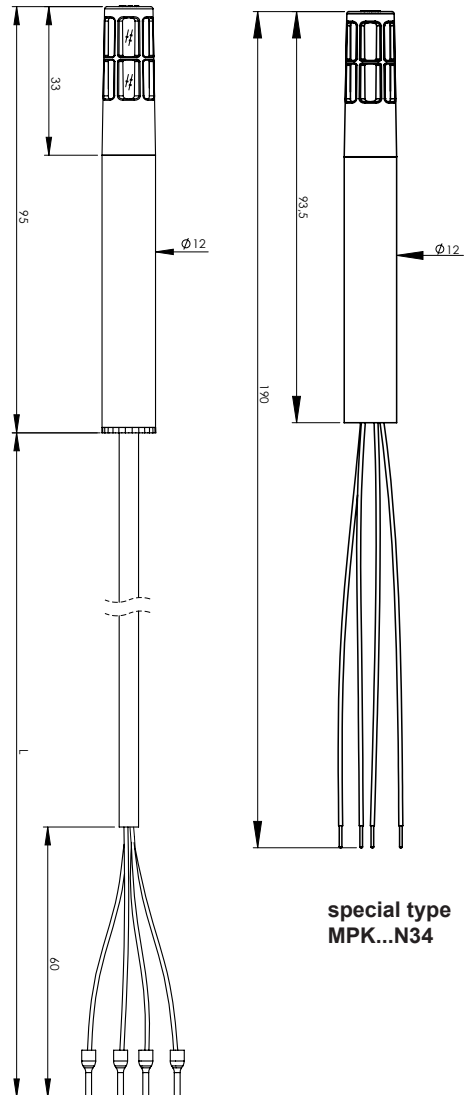
MCK.02-xx.x

length of cable in meter

MCK...1K0



MPK...yy4



**special type
MPK...N34**

Colour code for output range and characteristics of types MCK...4S0

		colour code
measuring range [°C]	0...100	green
	-20...80	red
	-30...70	black (without)
	-40...60	yellow
	-40...85	white
additional: seal for increased requirements		blue

Configurations of cable versions

Variable	Pin	Pin configuration analogue	Pin configuration digital	conductor colour
UB +	1	5...30 VDC	+ UB	green (red)
UB - (GND)	2	GND	GND	brown (brown)
Humidity	3	0...100% r.h.	SDA	white (black)
Temperature	4	1)	SCL	yellow (orange)

1) depending on sensor head selected (see table page 1)

Protocol for MC(P)K6.* (similar to I²C-output)

Microcontroller sends command for read-out of one byte



Microcontroller requests data byte according control command and reads out



from sensor

Symbol	Parameter	min	max	
t_{BUF}	idle period between BUS actions	4,7		μ s
$t_{D,SU}$	data set-up time	250		ns
$t_{D,HD}$	data hold time	50		ns
$t_{ST,HD}$	start hold time	4		μ s
$t_{ST,SU}$	start set-up time	4,7		μ s
$t_{SCL,L}$	SCL „low“ time	4,7		μ s
$t_{SCL,H}$	SCL „high“ time	4		μ s
f_{SCL}	SCL frequency		100	kHz
t_r	SDA, SCL LOW/HIGH time		1	μ s
t_f	SDA, SCL HIGH/LOW time		0,3	μ s
$t_{STO,SU}$	stop set-up time	4		μ s
t_{SP}	interference signal rejection		100	ns
CL	capacity SDA, SCL BUS (internal pull-up 120 k Ω)		10	pF
t_{MUPD}			150	ms
t_{SMPL}			5	ms
t_{Hold}	blocking time after device access	200		ms

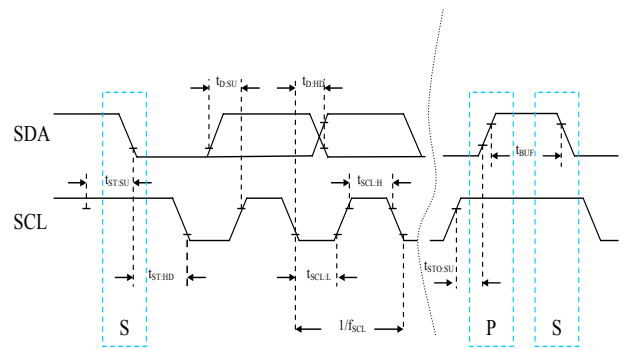
Signal characteristics at 25 °C and 3.3 V I²C BUS voltage

C 4	C 3	C 2	C 1	
0	0	0	0	Read-Out Humidity
0	0	1	0	Read-Out Temperature Byte 1
0	0	1	1	Read-Out Temperature Byte 2

D 7	D 6	D 5	D 4	D 3	D 2	D 1	D 0	
0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	Humidity
0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	Temperature Byte 1
X	X	X	X	0/1	0/1	0/1	0/1	Temperature Byte 2

x will not be evaluated

Humidity = decimal value humidity * 0.5
 Temperature = (decimal value temp.* 0.125)-40
 (decimal value DV temp. = DV Byte 1+ DV Byte 2 * 256)



BUS Timing