

## Htec 10kA Miniature Circuit Breakers

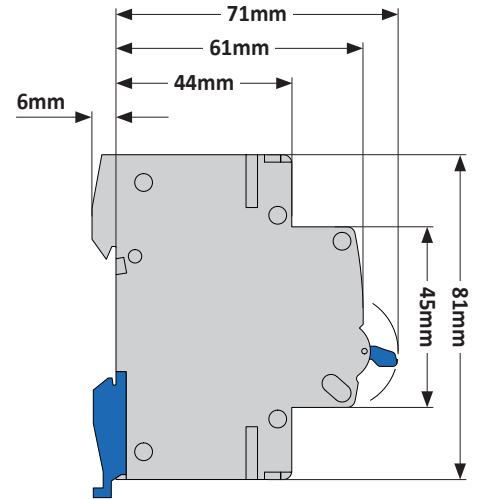
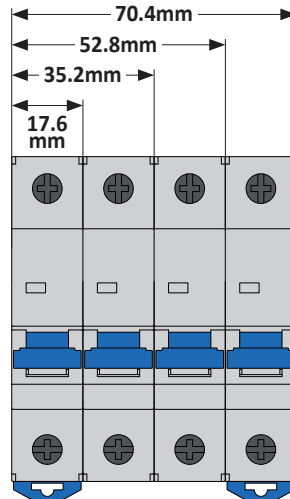
Htec 10kA MCBs



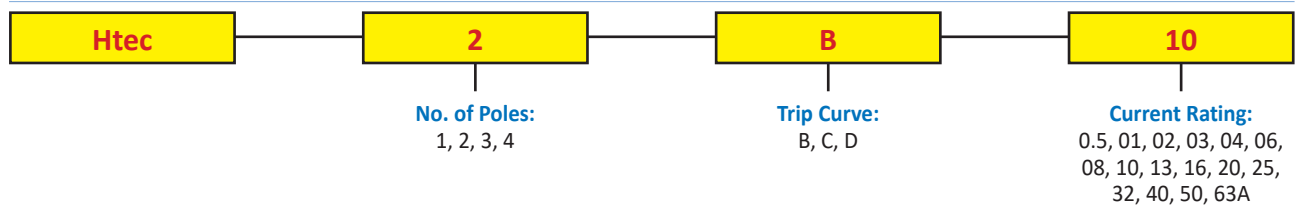
EN 60898

The Htec range of MCBs has been enthusiastically adopted by a diverse range of customers seeking a cost effective 10kA performance.

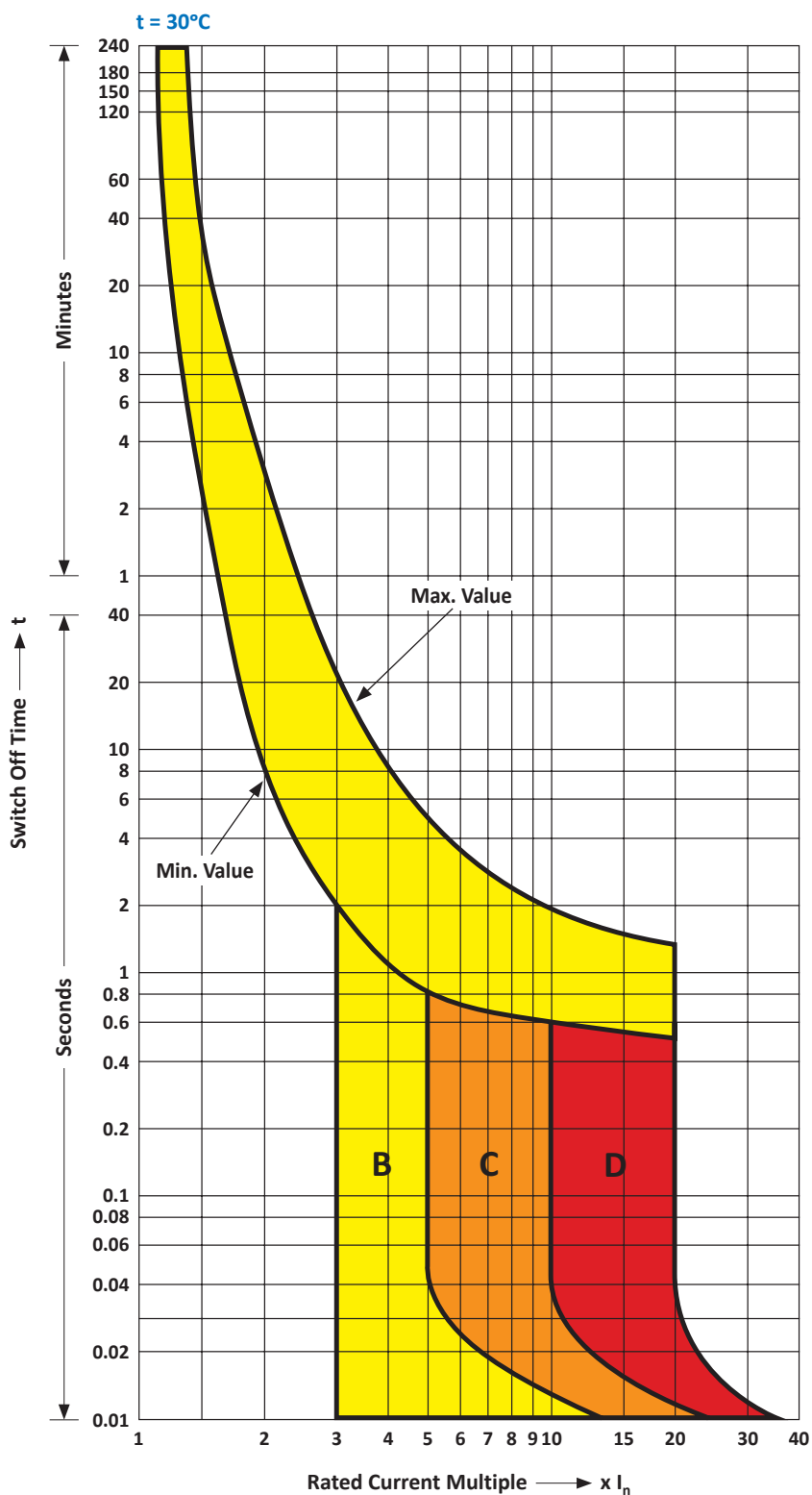
Htec MCBs are available in 1 to 4 pole, in trip curves B, C, D and in current ratings from 0.5A to 63A.



### Htec Ordering Scheme



## Htec Trip Curve



Magnetic Tripping Characteristics (50/60Hz)			
Type	$I_n$ Min.	$I_n$ Max.	Typical Applications
B	3	5	Commercial and Lighting
C	5	10	Medium Industrial
D	10	20	Heavy Industrial, eg. Transformers and Large Motors

### Htec Technical Specification

Tripping Characteristic	B	C	D
Application	Wiring Protection	Wiring Protection, Device Protection	Wiring Protection, Power Circuit, Transformers, Motors
Number of Poles	1 - 4		
Breaking Capacity	10kA		
Current Limiting Class	3 ( $\leq 40A$ )		n/a
Rated Voltage AC	230 / 400 Vac		
Frequency Range	50 - 60Hz		
Rated Current Range	0.5 - 63A		
Impulse Withstand Voltage	6kV		
Thermal Must Hold 1 (A) > 1h	1.13xI <sub>n</sub>		
Thermal Must Trip 2 (A) < 1h	1.45xI <sub>n</sub>		
Electromagnetic Must Hold (A) > 0.1s	3 x I <sub>n</sub>	5 x I <sub>n</sub>	10 x I <sub>n</sub>
Electromagnetic Must Trip (A) < 0.1s	5 x I <sub>n</sub>	10 x I <sub>n</sub>	20 x I <sub>n</sub>
Reference Calibration Temp.	30°C <sup>+5°C</sup>		
Ambient Operating Range Temp.	-25 to 60°C		
Maximum Relative Humidity	90% @ -25°C 50% @ 60°C		
Electrical Life	4000 Operations		
Mechanical Life	20,000 Operations		
Touch Protection	Finger Protected Connection Terminals		
Protection Type EN 60529/IEC 60529	IP20		
Installation Position	Any		
Mounting	DIN-Rail according to DIN EN 60715 (35mm)		
Cable Size	2.5 - 25mm <sup>2</sup>		
Busbar Comb Connection	Techna BBtec Comb and Pin 16/20		
Terminal Tightening Torque	2 Nm		

## Htec Impedances, Power Loss and Temperature Compensation

Rated Current of MCB	Internal Impedances & Power Loss		MCB Temperature Compensation									
	Internal Impedance	Power Loss on CB	Effective Rated Current allowing for Ambient Temperature.									
In (A)	Z (mΩ)	P (W)	I cor (A)									
	Characteristic B, C & D	Characteristic B, C & D	Ambient Temperature									
			-25°C	-15°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	
0.5	7150	1.79	0.64	0.61	0.58	0.55	0.52	0.5	0.47	0.45	0.4	
1.0	1300	1.3	1.27	1.22	1.15	1.1	1.05	1	0.95	0.9	0.8	
2.0	430	1.72	2.44	2.36	2.24	2.16	2.08	2	1.92	1.84	1.6	
3.0	150	1.35	3.99	3.81	3.54	3.36	3.18	3	2.82	2.61	2.41	
4.0	100	1.6	5.32	5.08	4.72	4.48	4.24	4	3.76	3.52	3.21	
6.0	45	1.62	7.32	7.08	6.72	6.48	6.24	6	5.76	5.52	5.3	
8.0	45.3	2.9	9.76	9.44	8.96	8.64	8.32	8	7.68	7.36	7.07	
10.0	13.2	1.32	13.3	12.7	11.8	11.2	10.6	10	9.3	8.6	7.8	
13.0	12.85	2.17	17.3	16.5	15.3	14.6	13.8	13	12.1	11.2	10.1	
16.0	7.3	1.87	20.2	19.7	18.4	17.6	16.8	16	15.2	14.2	13.3	
20.0	4.6	1.84	25.2	24.6	23	22	21	20	19	17.8	16.8	
25.0	3.6	2.25	31.5	30.8	28.8	27.5	26.2	25	23.7	22.2	20.7	
32.0	2.9	2.97	40.3	39.4	36.8	35.2	33.5	32	30.4	28.4	27.5	
40.0	1.9	3.04	50.4	49.2	46	44	42	40	38	35.6	33.2	
50.0	1.3	3.25	63	61.5	57.5	55	52.5	50	47.4	44	40.5	
63.0	0.9	3.57	80.6	77.5	72.5	69.3	66.2	63	58	54.2	49.2	

## Htec Accessories



Accessories		Order Codes
Shunt Trips	24 Vac/dc	HtecST024Vac/dc
	110 Vac/dc	HtecST110Vac/dc
	230 Vac/dc	HtecST230Vac/dc
Auxiliary and Signal Contacts	1 Changeover Contact	HtecAUX1CO
	1 Signal Changeover	HtecAUXSCO