

# SHARKY 774 COMPACT

## COMPACT ENERGY METER | ULTRASONIC

**DIEHL**  
Metering



### APPLICATION

The ultrasonic compact energy meter can be used for measuring the energy consumption in heating application for billing purposes. The measurement principle is static and based on the measurement of the transit time. Ultrasonic technology offers many benefits: no moving parts (avoids wear and tear of the metering components), low pressure loss, large metering dynamics and low start flowrate, intensiveness to suspended particles.

### FEATURES

AMR Smart MeterM-Bus or wM-Bus Communication. Combined with Diehl Metering AMR System technology highest transmission performance is achievable. Constantly high measuring rates (vol.: 2s; temp.: 16s) with up to 12 years battery life time. Current power is calculated and updated every 2s. AA-Cells contain less Lithium (0,7g per piece) than A-Cells. Not affected by dangerous goods transportation rules. Springless battery contact (hard-solder) is corrosion-protected. MID electromagnetic class E2 – less sensitive to neg. influence, e.g. culprit PWM pump. 8-digit LCD offers 3 fractional digits without risk of display overflow. Comfortable reading by removeable calculator (0.45m coax cable). Only 54 mm design height from pipe center, hence easy to install in compact heat stations.

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## GENERAL

SHARKY 774 compact	
Application	Heating
Approval	MID
Accuracy class	Class 2
Ambient temperature	°C +5 ... +55 (<35 °C have a positive effect on battery lifetime)
Storage temperature	°C Typical +5... +55°C
Test possibilities	Via display

1Battery exchangeable at lab.

## CALCULATOR - BASIC FEATURES

SHARKY 774 compact	
Absolute temperature range calculator	$\Theta$ °C 15 ... 105 (calculator)
Starting temperature difference	$\Delta\Theta$ K 0.125
Min. temperature difference	$\Delta\Theta_{\min}$ K 3 (MID approved)
Max. temperature difference	$\Delta\Theta_{\max}$ K 90 (MID approved)
Extensive readable data memory	Two predefined history logs for 720 daily (Log-1) and 120 monthly (Log-2) values of energy, volume and error hours; additionally event memory (error log)

## FLOW SENSOR - BASIC FEATURES

SHARKY 774 compact	
Mounting position flow sensor	Any position, horizontal, riser or downpipe and overhead
Protection class	IP 54
Temperature range heating water	°C 15 ... 90 (MID approved)
Dynamic range ( $q_p/q_i$ )	1:100
Useful range ( $q_s/q_p$ )	2:1

## DISPLAY

SHARKY 774 compact	
Display indication	8-digit
Units	kWh - MWh - GJ - m <sup>3</sup> - °C
Total values	99.999.999
Values displayed	Energy - Power - Volume - Flow rate - Temperature - etc.

## INTERFACES

SHARKY 774 compact	
Optical	According to ZVEI standard
M-Bus	According to EN13757-3:2013
Wireless M-Bus	According to EN13757-4:2013

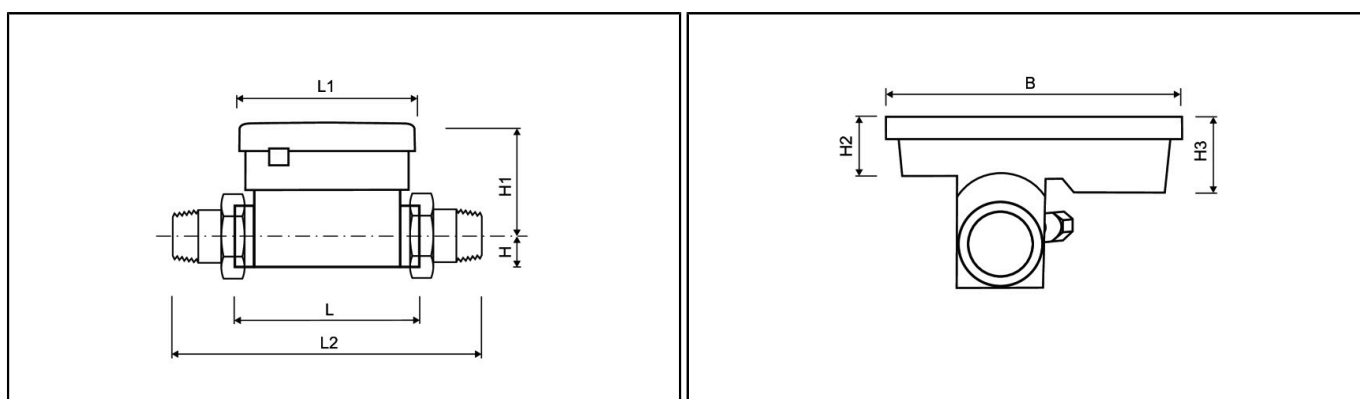
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## TECHNICAL DATA FLOW SENSOR

Nominal flow rate	$q_p$	$m^3/h$	0.6	1.5	1.5	2.5
Nominal diameter	DN	mm	15	15	20	20
Overall length	L	mm	110	110	130	130
Starting flow rate		l/h	1	2.5	2.5	4
Minimum flow rate	$q_i$	l/h	6	15	15	25
Maximum flow rate	$q_s$	$m^3/h$	1.2	3	3	5
Overload flow rate		$m^3/h$	2.5	4.6	4.6	6.7
Operating pressure	PN	bar	16	16	16	16
Kvs value ( $\Delta p = Q^2 / Kvs^2$ )			2.06	5.48	5.48	7.91
Pressure loss at $q_p$	$\Delta p$	mbar	85	75	75	100

## DIMENSIONS THREAD VERSION



Nominal flow rate	$q_p$	$m^3/h$	0.6	1.5	1.5	2.5
Nominal diameter	DN	mm	15	15	20	20
Overall length	L	mm	110	110	130	130
Overall length with coupling	L2	mm	190	190	230	230
Length of calculator	L1	mm	90	90	90	90
Height	H	mm	14.5	14.5	18	18
Height	H1	mm	55	55	58	58
Height of calculator	H2	mm	27	27	27	27
Height of calculator	H3	mm	40	40	40	40
Width of calculator	B	mm	135	135	135	135
Connection thread on meter	Inch		G $\frac{3}{4}$ B	G $\frac{3}{4}$ B	G1B	G1B
Connection thread of coupling	Inch		R $\frac{1}{2}$	R $\frac{1}{2}$	R $\frac{3}{4}$	R $\frac{3}{4}$
Weight	kg		0.70	0.70	0.77	0.77

## PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH

