Technical Datasheet

SYCOUS®

Diehl Sharky 774

Part Code	Name	Size	QP (m3/h)	Output
DI015HM	DN15 Sharky 774 Ultrasonic Heat Meter MBus	15	1.5	MBUS
DI020HM	DN20 Sharky 774 Ultrasonic Heat Meter MBus	20	2.5	MBUS
DI016HM	DN15 Sharky 774 Ultrasonic Heat Meter WMBus	15	1.5	WIRELESS MBUS
DI021HM	DN20 Sharky 774 Ultrasonic Heat Meter WMBus	20	2.5	WIRELESS MBUS
DI774MO	Wall Fixing Bracket Sharky 774	-	-	-

SHARKY 774 COMPACT ultrasonic energy meter is designed for measuring the energy consumption in heating or combined (heating/cooling) application for billing purposes. Its static ultrasonic technology is based on the measurement of the transit time. It offers many benefits: no moving parts (reduces wear and tear of the metering components), low pressure loss, wide dynamic measuring range, low start flowrate and insensitiveness to suspended particles.

Features:

- M-Bus or Wireless M-Bus (OMS radio 868 MHz) communication. Enhanced transmission performance is achieved when combined with Diehl Metering AMR system technology.
- Constant high measuring rates of the temperatures and volume with up to
- 12 years battery life time
- 8-digit LCD
- Removable calculator (0.45m coaxial cable) ensuring comfortable reading

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General		
Application		Heating or heating/with cooling tariff
Approval		MID (DE-13-MI004-PTB008)
Accuracy class		Class 2
Ambient temperature	°C	+5 ... +55 (<35 has a positive effect on battery lifetime)
Storage temperature	°C	+5 ... +55 | max. -20 ... +60 (max. 4 weeks)
Humidity	%	93 maximum
Lithium content	g	g 2 x 0.7
Battery supply		3.6 VDC 2xAA-Cell
Temperature sensor type		Pt 500, 2-wires: Ø 5.2 mm
Cable length of temperature sensor	m	1.45
Test possibilities		Via display
Volume measuring cycle	S	2
Temperature measuring cycle	S	16 (long radio telegram + Mbus) / 32 (short radio telegram)
Power calculation cycle	S	2

Flow Sensor - Basic Features		
Dynamic range (qp/qi)		1:100
Mounting position flow sensor		Any position, claming section not necessary
Temperature range (heating)	°C	+5 ... +105*
Temperature range (heating/ cooling)	°C	+5 ... +105
Protection class		IP54 (heating) - IP68 (heating/cooling)
*+130°C in option		

Calculator - Basic Features			
Protection class			
Envirnomental class - Mechanical			
Environmental class - Electromechanical			
Calculator			
Absolute temperature range	Θ	°C	+1 ... +105 (+130 in option)
Starting temperature difference	ΔΘ	K	0.125
Min. temperature difference	ΔΘ min	K	3 (MID approved)
Max. temperature difference (heating)	ΔΘ max	K	127 (MID approved)
Extensive readable data memory			2 predefined history logs for 720 daily (Log-1) and 120 monthly (Log-2) values of energy, volume and error hours; additonally event memory (error log)

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Interfaces	
Optical	ZVEI interface, for communication and testing, M-Bus protocol
Display	LCD, 8-digit
M-Bus	According to EN13757-3:2013
Wireless M-Bus	According to EN13757-4:2013

Display	
Display Indication	LCD, 8-digit
Units	kWh - m3 - °C - m3/h *
Total values	99.999,999
Values displayed	Energy - Volume - Flow - Power - Temperature - Differential temperature - Operating days - Error Status - Display test
*MWh - GJ in option	

M-Bus	
M-Bus	Auto baud detect (300 and 2400 bauds); Galvanically insulated
Data transmission	Data reading via 2 non-polarized wires (1.45 m)
Battery lifetime	Up to 12 years*
*Under standard conditions of use and temperature. Theoretical lifetime, with no guarantee.	

Wireless M-Bus (Radio)	
Frequency band	868 MHz
Type of radio telegram	Open Metering Standard (OMS)
Transmission data updating	Online - no time delay between value measurement and data transmission
Data transmission	Unidirectional
Battery lifetime T a	Up to 12 years*
Sending interval options	Short telegram: 33 sec. for heating, 43 sec. for heating/cooling | Long telegram: 64 sec. for heating, 91 sec. for heating/cooling
*Under standard conditions of use and temperature. Theoretical lifetime with no guarantee. 1Factory settings	

Data Collection

Wired Networks

Wireless Networks

IoT Technologies

MBus & Pulse for any network

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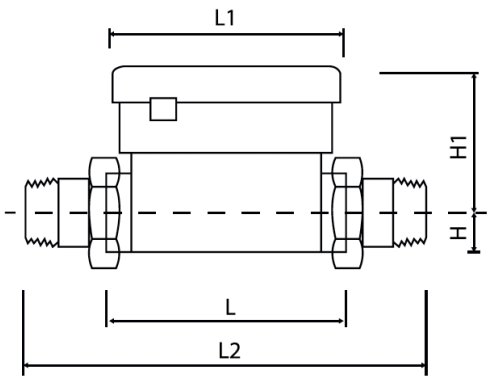
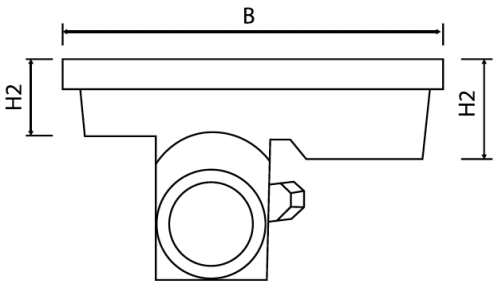
Technical Data Flow Sensor				
Nominal flow rate	qp	m³/h	1.5	2.5
Nominal diameter	DN	mm	15	20
Overall length	L	mm	110	130
Starting flow rate		l/h	2.5	4
Minimum flow rate	qi	l/h	15	25
Maximum flow rate	qs	m³/h	3	5
Overload flow rate		m³/h	4.6	6.7
Operating pressure	PN	bar	16	16
Kvs value (Δp= Q2/Kvs²)			4.33	7.91
Pressure loss at qp	Δp	mbar	120	100

Dimensions Thread Version





Normal flow rate	qp	m³/h	1.5	2.5
Nominal diameter	DN	mm	15	20
Overall length	L	mm	110	130
Overall length with coupling	L2	mm	190	230
Length of calculator	L1	mm	90	90
Height	H	mm	14.5	18
Height	H1	mm	55	58
Height of calculator	H2	mm	27	27
Height of calculator	H3	mm	40	40
Width of calculator	B	mm	135	135
Connection thread on meter		inch	G¾B	G1B
Connection thread of coupling		inch	R½	R¾
Weight		kg	0.70	0.77

Pressure Loss Graph/ Typical Error Graph