

M306ICT

Residual Current Monitor
IEC 62955 & IEC62752

*Magenta
Magnetic*

Overview

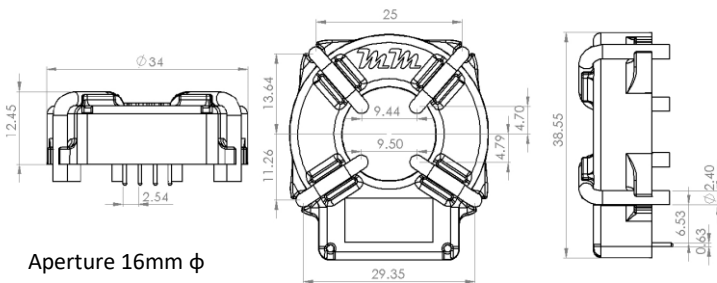


The **M306ICT** residual current monitor is a fluxgate sensor and custom IC. With a reference circuit supplied, to enable full integration into a charging system. Designed to meet the needs of Mode 2 and Mode 3 electric vehicle charging. It satisfies the requirements of both IEC62752 and IEC 62955 in one circuit. With multiple customisable outputs and integrated calibrate-test function.

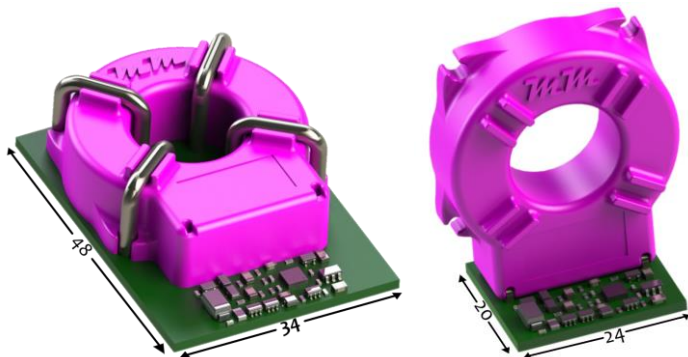
Application

In Mode 2 and Mode 3 Electric Vehicle charging systems the conductors to the vehicles need to be monitored for DC residual current faults. Fault current in excess of 6mA DC and impair the operation of the upstream RCD. If the system is functioning correctly the sum of all currents is zero and the sensor measures nothing. If a fault occurs the sum of the currents is no longer zero and the sensor detects and signals this condition.

Mechanical



Typical Integrations



Technical Data

General

	min	typical	max	
Supply voltage	4.8	5	5.2	Vdc
Supply current		4	7	mAdc
Rated primary current		40		A
Operating/storage temperature	-40		85	°C

IEC 62955 output

Residual detection level	3	4.5	6	mAdc
Response time:				
6mAdc	1000	2000	4000	ms
60mAdc	40	60	80	ms
200mAdc	15	25	35	ms
Non-response time:				
30mAac		∞		ms
60mAac		∞		ms
150mAac		∞		ms
5Aac	80			ms

Release time dc

Release time dc	250			ms
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IEC 62752 output

Residual detection level	3	4.5	6	mAdc
Response time:				
6mAdc	1000	2000	4000	ms
60mAdc	15	25	35	ms
300mAdc	5	10	20*	ms
>5Aac	5	10	20*	ms

Residual detection level

Response time:	19	21	23	mAac
30mAac	100	130	180	ms
60mAac	20	35	50	ms
150mAac	5	15	20*	ms
>5Aac	5	10	20*	ms

Composite detection level

Response time:				
210mAac	5	10	20*	ms

Release time dc

Release time dc	250			ms
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Release time ac

Release time ac	40			ms
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Outputs

All Monitor outputs		5		Vdc
PWM monitor output		3-33		%/mA
PWM frequency	7.8	8	8.2	kHz

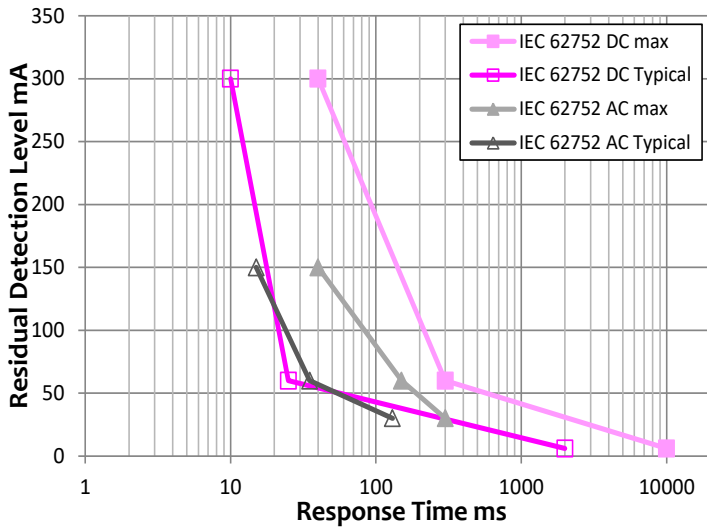
Calibrate – Test

Test input voltage	0		5	Vdc
Test active voltage			1	
Equivalent test current		10		mAdc

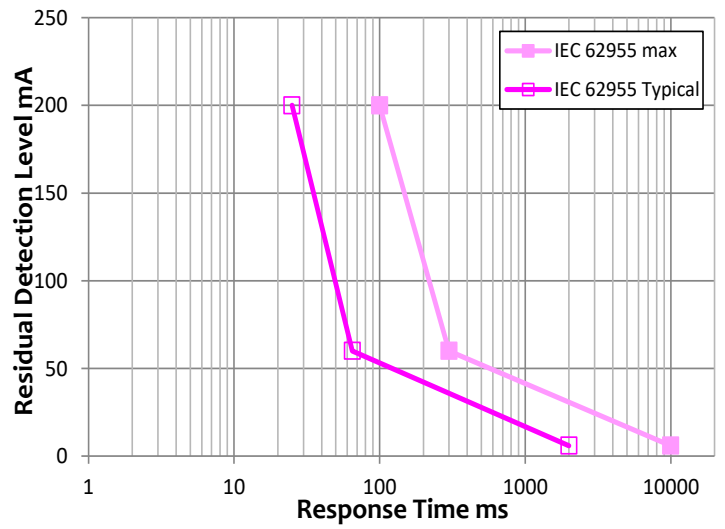
(No current can flow during test)

* Allows 20ms for suitable contactor to disconnect.

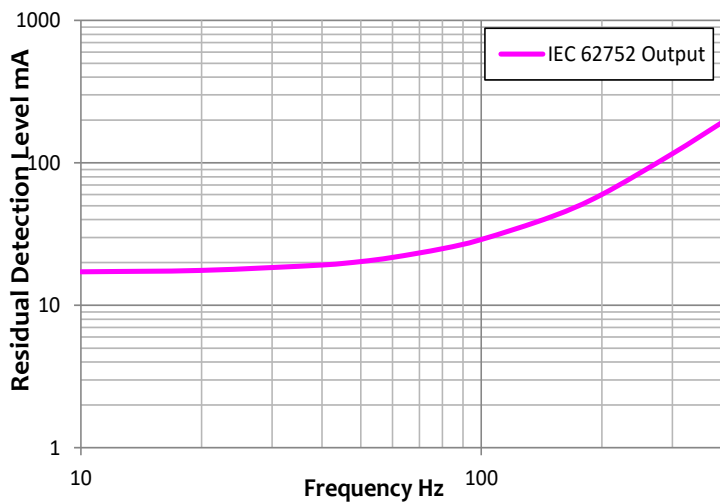
Response Times IEC 62752



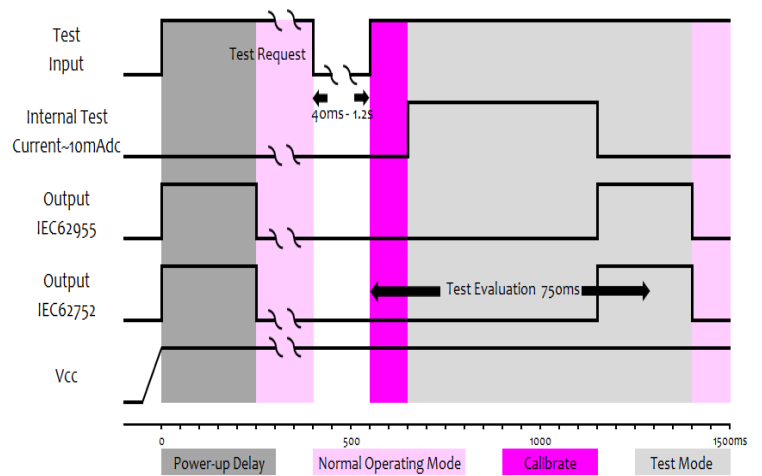
Response Times IEC 62955



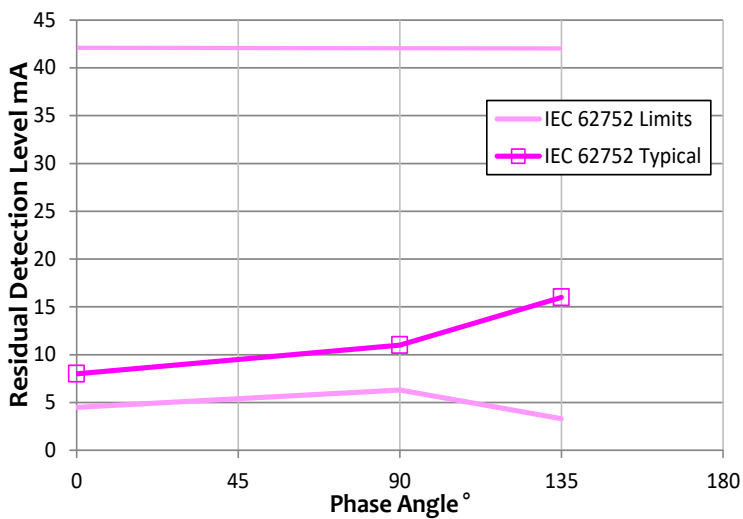
Frequency Response



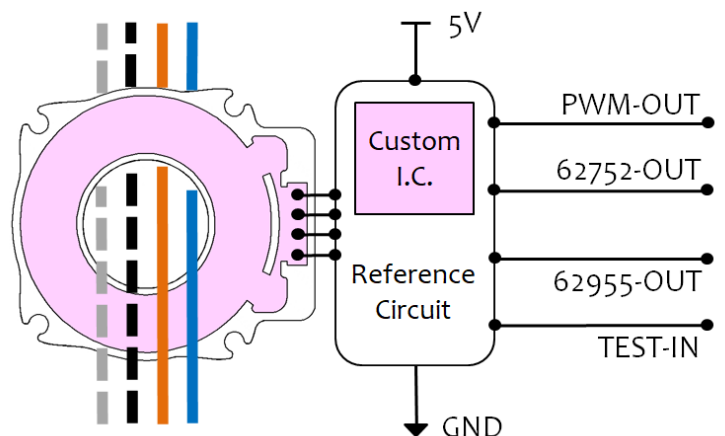
Timing Diagram



Pulsating DC Response Level



Typical Circuit



Output functionality and quantity can be customised.
Please contact the design team for more information and options.

