

NEW! ICS 50 with thermal considerations

Industrial Case Systems: Enclosures for IoT devices

AUGUST 2020

Description

The Industrial Case System (ICS) encloses OEM designs in both traditional and emerging industrial applications that require control, monitoring, conditioning, regulation, conversion, and other important functionality.

ICS is a comprehensive enclosure series aimed at covering a vast range of IP20 cabinet applications. Different sizes, numerous interface options, TBUS connectors, and heatsinks make it especially suitable for IoT devices such as gateways, edge computing, controllers, and power supplies.

In 2018, the ICS product launched with 20 and 25mm-wide versions in various heights and depths. As with most enclosure systems from Phoenix Contact, integrated connectivity remains a key competitive advantage. The integrated connectivity included in this ICS release is not only Phoenix Contact's standard PCB mount and through-panel connectors, but also other standard connections such as RJ45, DSUB, USB, and antennas. For the first time, Phoenix Contact offers an enclosure system with complete connection flexibility, completely modular in its design.

Now, the ICS product line expands to 50mm-wide variants that incorporate the same integrated connectivity. In addition to the new sizes, customizable heatsinks can be combined and fully integrated into the ICS 50. Passive heatsinks, as part of the ICS series, enable the finished devices to be used even in thermally demanding applications. Along with these hardware additions, free online thermal simulations from Phoenix Contact allow customers to optimize their PCB layouts for proper heat dissipation. If a design requires detailed analysis beyond the online simulations, additional consultation is available with comprehensive, application-specific thermal simulations and suggestions. Phoenix Contact is therefore providing a way to identify potential long-term failures at an early stage so that appropriate steps can be taken to prevent them.

This supports the move to miniaturization and dense packaging of electronics, which results in higher operating temperatures. Until now, packaging and hardware suppliers for industrial electronics left it up to an OEM to solve these thermal management challenges in designing devices. Phoenix Contact's ICS portfolio and online services bridge the gap and will aid OEMs in bringing their devices to market quickly and efficiently.

To recap, the three elements of this new product launch are:

- The ICS 50 with Integrated Cooling Elements (ICE) / heatsinks
- Free, web-based thermal simulation using the online configurator
- Extensive thermal simulation as a consulting service



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ICS series configuration overview











Housings				Lower housing part			Upper housing part ¹⁾					
(Lower housing part with upper housing part)							Closed			With transparent hinged cover		
	Width	Height	Depth	Type	Order No.	Depth of lower housing part	Type	Order No.	Depth of upper housing part	Type	Order No.	Depth of upper housing part
	20 mm	100 mm	110 mm	ICS20-B100x98-V-7035	2203878	98 mm	ICS20-C100x12-7035	2203879	12 mm	ICS20-TL100x12-7035	2203880	12 mm
	25 mm	77 mm	87 mm	ICS25-B77x75-O-7035	2203876	75 mm	ICS25-C77x12-7035	1019703		ICS25-TL77x12-7035	1019570	
	25 mm	100 mm	110 mm	ICS25-B100x98-V-7035	2203881	98 mm	ICS25-C100x12-7035	2203882		ICS25-TL100x12-7035	2203883	
	25 mm	100 mm	110 mm	ICS25-B100x98-O-7035	1105221	98 mm	ICS25-C100x12-7035	2203882		ICS25-TL100x12-7035	2203883	
	25 mm	100 mm	132 mm	ICS25-B100x120-V-7035	2203884	120 mm	ICS25-C100x12-7035	2203882		ICS25-TL100x12-7035	2203883	
	25 mm	122 mm	110 mm	ICS25-B122x98-V-7035	2203885	98 mm	ICS25-C122x12-7035	2203886		ICS25-TL122x12-7035	2203887	
	50 mm	100 mm	110 mm	ICS50-B100x98-V-V-7035	1076998	98 mm	ICS50-C100x12-7035	1076995		ICS50-TL100x12-7035	1076994	
	50 mm	100 mm	110 mm	ICS50-B100x98-O-O-7035	1118644	98 mm						
	50 mm	122 mm	110 mm	ICS50-B122x98-V-V-7035	1077064	98 mm	ICS50-C122x12-7035	1076992		ICS50-TL122x12-7035	1076991	
	50 mm	122 mm	110 mm	ICS50-B122x98-O-O-7035	1118647	98 mm						











Heatsinks						
Heatsink dimensions ²⁾						
	Height	Length	Width	Type	Order No.	Recommended housing use
	50.1 mm	105 mm	67.4 mm	ICE50-R100x67-A1	1118306	ICS50-B100x98-V-V-7035 ICS50-B100x98-O-O-7035
	50.1 mm	127.5 mm	67.4 mm	ICE50-R122x67-A1	1118305	ICS50-B122x98-V-V-7035 ICS50-B122x98-O-O-7035

Housings			Header connection technology															
(Lower housing part with upper housing part)			Headers															
																		
Width	Height	Depth	3-pos., left / 5 mm		3-pos., right / 5 mm		4-pos., left / 5 mm		4-pos., right / 5 mm		4-pos., left / 3.5 mm		4-pos., right / 3.5 mm		5-pos., left / 3.5 mm		5-pos., right / 3.5 mm	
			Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.	
20 mm	100 mm	110 mm	ICC20-H/ 3L5,0-7035	2203900	ICC20-H/ 3R5,0-7035	2203901					ICC20-H/ 4L3,5-7035	1084014	ICC20-H/ 4R3,5-7035	1084012				
25 mm	77 mm	87 mm																
25 mm	100 mm	110 mm					ICC25-H/ 4L5,0-7035	2203902	ICC25-H/ 4R5,0-7035	2203903					ICC25-H/ 5L3,5-7035	1084018	ICC25-H/ R3,5-7035	1084017
25 mm	100 mm	132 mm																
25 mm	122 mm	110 mm																







Part Type / Order No. items in **BLUE** are **NEW** with this launch.

ICS series configuration overview

Housings			Connector connection technology																			
(Lower housing part with upper housing part)			With Push-in								With screw connection											
																						
Width	Height	Depth	5.0 mm pitch								5.0 mm pitch								3.5 mm pitch			
			3-pos., Push-in		4-pos., Push-in		3-pos., Push-in, can be coded		4-pos., Push-in, can be coded		3-pos., screw connection		4-pos., screw connection		3-pos., screw connection, can be coded		4-pos., screw connection, can be coded		4-pos., screw connection, can be coded		5-pos., screw connection, can be coded	
			Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.	
20 mm	100 mm	110 mm	PSPT 2,5/3-ST KMGY	2202345			ICC20-PPC2,5/3-5,0-AA-7035	1084030			MSTBT 2,5 HC/3-STP	2200333			ICC20-PSC2,5/3-5,0-AA-7035	1084026			ICC20-PSC1,5/4-3,5-AA-7035	1084020		
25 mm	77 mm	87 mm																				
25 mm	100 mm	110 mm			PSPT 2,5/4-ST KMGY	2202344			ICC25-PPC2,5/4-5,0-AA-7035	1084034			MSTBT 2,5 HC/4-STP	2200332			ICC25-PSC2,5/4-5,0-AA-7035	1084027			ICC25-PSC1,5/5-3,5-AA-7035	1084024
25 mm	100 mm	132 mm																				
25 mm	122 mm	110 mm																				

Housings				Fillers																	
(Lower housing part with upper housing part)				Filler								Filler with function cutout ¹⁾									
				Without vents				With vents				For RJ45		For USB		For antenna		For D-SUB15		For D-SUB9	
																					
	Width	Height	Depth	Depth 22.5 mm		Depth 45 mm		Depth 22.5 mm		Depth 45 mm		Depth 22.5 mm		Depth 22.5 mm		Depth 22.5 mm		Depth 45 mm		Depth 45 mm	
				Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.		Type / Order No.	
	20 mm	100 mm	110 mm	ICS20-F22S-7035	2203888	ICS20-F45S-7035	2203889	ICS20-F22V-7035	1079494	ICS20-F45V-7035	1079493			ICS20-F22U-7035	1053051	ICS20-F22A-7035	2203896				
	25 mm	77 mm	87 mm																		
	25 mm	100 mm	110 mm																		
	25 mm	100 mm	132 mm																		
	25 mm	122 mm	110 mm																		
				ICS25-F22S-7035	2203890	ICS25-F45S-7035	2203891	ICS25-F22V-7035	1079495	ICS25-F45V-7035	1079492	ICS25-F22J-7035	2203895	ICS25-F22U-7035	1053046	ICS25-F22A-7035	2203894	ICS25-F45D15-7035	2203896	ICS25-F45D9-7035	1053054

Housings			
(Lower housing part with upper housing part)			

Accessories					
FE contact	Base latch for housing height 77 mm	Base latch for housing height 100 mm	Base latch for housing height 122 mm	Coding elements	ICS mounting device
					
Order No.	Order No.	Order No.	Order No.	Order No.	Order No.
2203904	1143118	1143120	1143121	1084009	1118354

¹⁾ Further fillers with function cutout available on request

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