

IMCCS-050-1 SCALE-iFlex™ Family

Cable Set to Connect Isolated Master Control (IMC) and
Module Adapted Gate Drivers (MAG)

Product Highlights

Highly Integrated, Compact Footprint

- Connection cable for SCALE-iFlex driver family between IMC and MAG
- 6-pin connection for the high-side channel of the half-bridge module
- 8-pin connection for the low-side channel of the half-bridge module
- Mechanical locking
- Mechanical polarity inversion protection
- -40 °C to +85 °C operating ambient temperature

Applications

- Wind and photovoltaic inverters
- Traction inverters
- Industrial drives
- Other industrial applications

Description

This datasheet describes the connection cables between the Isolated Master Control (IMC) and Module Adapted Gate Drivers (MAG) of the SCALE-iFlex gate driver family. The cables are available in a 6- and an 8-pin-configuration. The 6-pin-connection is used for the high side channel of the semiconductor half-bridge module whereas the 8-pin connection is the connection of the low side channel.

Connectors

6-pin-Cable

Amphenol FCI 10073599-006LF (Female, 6 circuits, Minitek, 2mm pitch, center locking ramp)

8-pin-Cable

Amphenol FCI 10073599-008LF (Female, 8 circuits, Minitek, 2mm pitch, center locking ramp)

Crimps

Amphenol FCI 10044403-101LF (Minitek Crimp Terminal, female, 0.76µm select gold, AWG 22...24)

Pinning of 8-Pin Cable

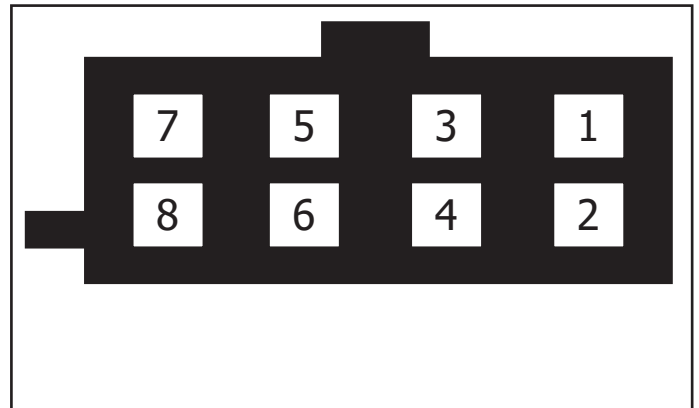


Figure 2. Pinning of 8-pin-Connector, top view, cable side.

Pinning of 6-Pin Cable

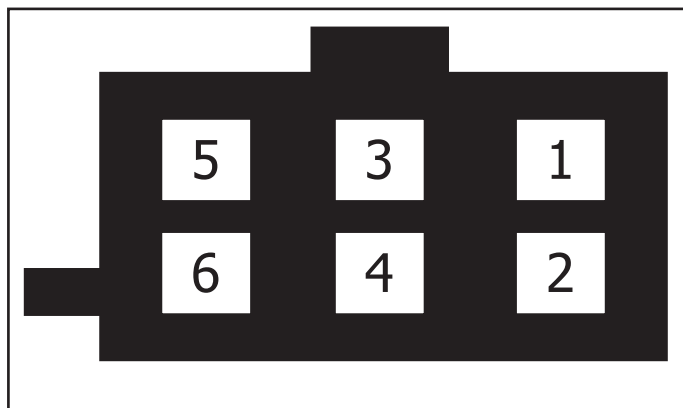


Figure 1. Pinning of 6-pin-Connector, top view, cable side.

Product Dimensions

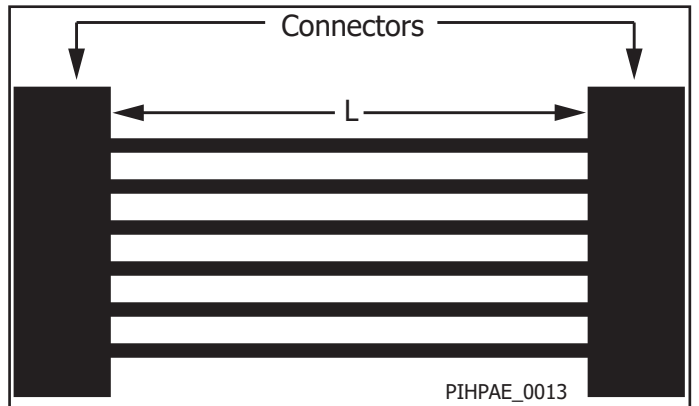


Figure 3. Definition of cable length.

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Min	Max	Units
Absolute Maximum Ratings¹					
Storage temperature	T_{st}		-40	85	°C
Operating ambient temperature ²	T_A		-40	85	°C
Relative humidity	H_r	No condensation		93	%
Peak voltages between wires in cable	V_{max}		-200	200	V

Characteristics

Parameter	Symbol	Conditions $T_A = -40\text{ °C to }85\text{ °C}$	Min	Typ	Max	Units
Wire						
Wire Cross Section	D_{Cable}			24		AWG
Cable						
Length	L	see Figure 3		500		mm

Standards

IMCCS-050-1 fulfills the following standards in combination with SCALE-iFlex products:

- IEC 61373:2010, Railway applications - Rolling stock equipment - Shock and vibration tests, class 1B
- IEC 60721-3-5, Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities, 5M2
- Plastic materials compliant to EN45545-2, HL3 (Hazard Level 3)
- Plastic materials compliant to UL 94-V2

Routine Test

The following tests are performed before delivery:

- Continuity test
- Minimum impedance test to neighbor wires

Transportation and Storage Conditions

For transportation and storage conditions refer to Power Integrations' Application Note AN-1501.

RoHS Statement

We hereby confirm that the product supplied does not contain any of the restricted substances according Article 4 of the RoHS Directive 2011/65/EU in excess of the maximum concentration values tolerated by weight in any of their homogeneous materials.

Additionally, the product complies with RoHS Directive 2015/863/EU (known as RoHS 3) from 31 March 2015, which amends Annex II of Directive 2011/65/EU.

NOTES:

1. Stresses beyond those listed under absolute maximum ratings may cause permanent damage to the device.
2. The maximum ambient temperature of the final product is 85°C. Part of the cable may however be exposed to higher temperatures due to self-heating of the product.

Revision	Notes	Date
A	Final Datasheet.	11/22

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