MAGCS-015-1
SCALE-iFlex™ Family

Cable Set to Connect Two Module Adapted Gate Drivers (MAGs)

Product Highlights

Highly Integrated, Compact Footprint

- Connection cable for SCALE-iFlex driver family between two module adapted gate drivers (MAGs)
- 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 two 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. Two ferrite beads are integrated on each cable to reduce the common-mode currents between the paralleld connected MAGs and improve signal integrity.

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)

Ferrite Bead

Two ferrite ring cores with plastic housing are integrated on each cable. This improves signal integrity and reduces the common-mode currents between the two MAGs.

Pinning of 8-Pin Cable

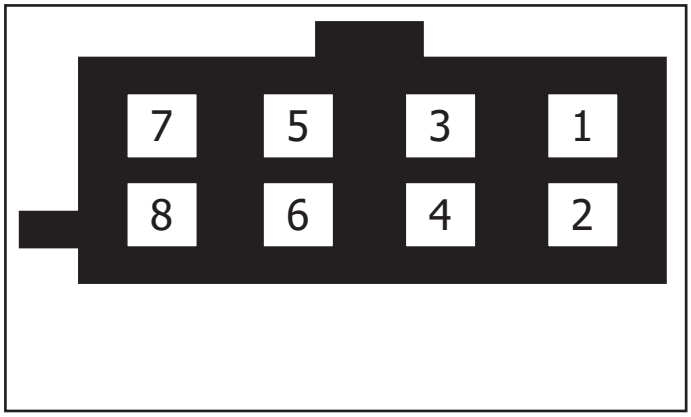

Figure 2. Pinning of 8-pin-Connector, top view, cable side.

Pinning of 6-Pin Cable

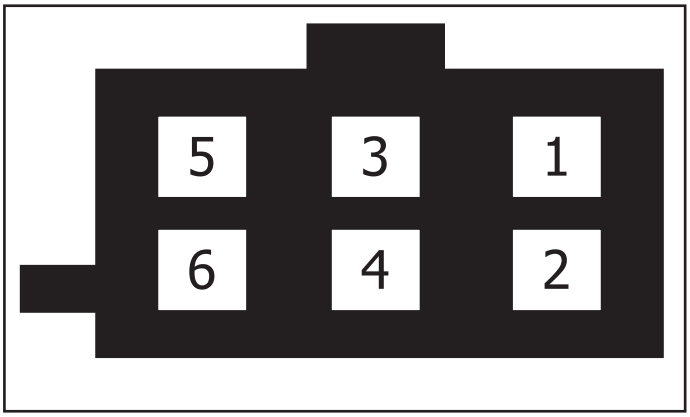

Figure 1. Pinning of 6-pin-Connector, top view, cable side.

Product Dimensions

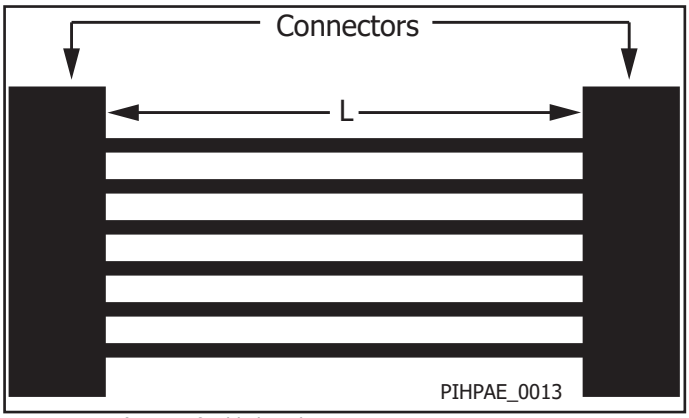

Figure 3. Definition of cable length.

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Min	Max	Units
Absolute Maximum Ratings[1]					
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 °C to 85 °C	Min	Typ	Max	Units
Wire						
Wire Cross Section	D_{Cable}			24		AWG
Cable						
Length	L	see Figure 3		150		mm

Standards

MAGCS-015-1 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.	12/22

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