Rexroth IndraDrive Cs
Multiprotocol-capable compact drives


# Rexroth IndraDrive Cs - Compact drives with Ethernet-based communication 


#### Abstract

With the new series of compact IndraDrive Cs drives, Rexroth is expanding the lower power range of the IndraDrive drive system that has enjoyed worldwide success. In addition to its spacesaving design and outstanding performance data the IndraDrive Cs also offers an extensive range of Ethernet-based communication interfaces.


The newly developed communication hardware with multiple protocol compatibility enables the IndraD rive Cs to meet today's higher requirements for openness and consistency. SERCOS III, PROFINET IO, EtherNet/IP and EtherCat are available even in the first expansion level. These Ether-net-based interfaces are connected via universal communication hardware which is easily configured by means of software.

Systems and Solutions


Rexroth has thus given users a high degree of flexibility in communication with minimal engineering work. Combined with the new multiple transducer interface for evaluating all standard encoder types and an additional vacant slot, it is possible to confidently cover very specific drive tasks. With IEC-compliant M otion Logic and industry-specific technology modules the IndraD rive Cs is ideally suitable for a wide variety of applications.

Our Automation House is a unique modular toolkit which gives you everything you need to create leading-edge automation solutions. From drives and controllers right through to a high-performance framework for consistent engineering and user-friendly operation. This innovation brings you all the latitude associated with modern automation technology - consistency, intelligence and forward compatibility.

## The drives - Universal and intelligent

## Multiple Ethernet

The new communications interface with multiple protocol compatibility enables IndraD rive Cs to be used on a universal basis with a wide range of Ethernet-based communication protocols - without even requiring any changes to the hardware.

IndraDrive Cs supports the following protocols:

- SERCOS III
- PROFINET IO
- EtherNet/IP
- EtherCat

In addition, IndraDrive Cs can also be equipped with a conventional communication interface such as PROFIBUS DP, for example.

## Multiple encoder

supported as standard With its multiple transducer interface, IndraD rive Cs is able to support all standard encoder types - which gives you total freedom to select the encoder and motor system of your choice.

IndraDrive Cs supports the following encoder types:

- EnD at 2.1 and EnD at 2.2 absolute encoders
- Hiperface®absolute encoders
- absolute encoders from Rexroth M SM M otors
- $1 \mathrm{~V}_{\mathrm{pp}}$ incremental signals
- 5V TTL incremental signals
- Resolver




## Technical features

- 2 series for direct connection to 110-230 V AC or 200-500 V AC line
- suitable for motors with continuous outputs of 0.05 to 3.5 kW
- complete range of scal eabledrives
- compatible with the IndraD rive family
- digital inputs/outputs and analog input on board
- intelligent operating panel with programming module function

Size 1


Size 2


| Converter <br> Type |  | Size 1 |  |  |  |  |  | Size 2 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { HCS01.1E- } \\ & \text { W0003 } \end{aligned}$ | $\begin{aligned} & \text { HCS01.1A- } \\ & \text { W0006 } \end{aligned}$ | $\begin{aligned} & \text { HCS01.1E- } \\ & \text { W0009 } \end{aligned}$ | $\begin{aligned} & \text { HCS01.1E- } \\ & \text { W0013 } \end{aligned}$ | $\begin{aligned} & \text { HCS01.1E- } \\ & \text { W0005 } \end{aligned}$ | $\begin{aligned} & \text { HCS01.1E- } \\ & \text { W0008 } \end{aligned}$ | $\begin{aligned} & \text { HCS01.1E- } \\ & \text { W0018 } \end{aligned}$ | $\begin{aligned} & \text { HCS01.1E- } \\ & \text { W0028 } \end{aligned}$ |
| Performance data |  |  |  |  |  |  |  |  |  |
| Mains connection voltage | V | $3 \mathrm{AC} 110 \ldots 230 \mathrm{~V}^{*}$ |  |  |  | 3 AC $200 . .500 \mathrm{~V}^{*}$ |  |  |  |
| Continuous current | $\mathrm{A}_{\text {eff }}$ | 1,1 | 2,0 | 3,0 | 4,4 | 1,7 | 2,7 | 6,0 | 11,5 |
| Maximum current | $\mathrm{A}_{\text {eff }}$ | 3,3 | 6,0 | 9,0 | 13,0 | 5,0 | 8,0 | 18,0 | 28,0 |
| Continuous mechanical output | W | 100 | 200 | 400 | 750 | 400 | 750 | 1.500 | 3.500 |

*Derating at operation with single-phase power supply

## The motors - Dynamic and compact



The maintenance free M SM motors are available in five sizes with continuous mechanical outputs of up to 750 W. Thanks to their high power density in combination with a short length and minimal flange size they are suitable for use in a wide variety of applications. The motors designed to protection category IP54 are equipped with an absolute encoder and can be supplied optionally either with or without a holding brake. They are absolutely ideal for use on control equipment for connecting to 3 AC 230 V lines. For higher mains connection voltages and continuous ratings of up to 3.5 kW , please choose from our comprehensive range of IndraD yn motors.

| Dimension |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Motor | Continuous rating | Continuous standstill torque | Maximum torque | Maximum speed | Dimensions |  |  |  |  |  |  |  | Protection category |
|  | $P_{N}$ <br> [W] | $\mathrm{M}_{\mathrm{O}}$ <br> [ Nm ] | $\begin{aligned} & M_{\max } \\ & {[\mathrm{Nm}]} \end{aligned}$ | $\begin{gathered} \mathrm{n}_{\max } \\ {\left[\min ^{-1}\right]} \end{gathered}$ | $\begin{gathered} \mathrm{A} \\ {[\mathrm{~mm}]} \end{gathered}$ | B without/ with brake [mm] | $\begin{gathered} \mathrm{C} \\ {[\mathrm{~mm}]} \end{gathered}$ | $\begin{aligned} & \varnothing D \\ & {[\mathrm{~mm}]} \end{aligned}$ | $\begin{gathered} \varnothing \mathrm{E} \\ {[\mathrm{~mm}]} \end{gathered}$ | $\begin{gathered} \varnothing \mathrm{F} \\ {[\mathrm{~mm}]} \end{gathered}$ | $\begin{aligned} & \varnothing \mathrm{G} \\ & {[\mathrm{~mm}]} \end{aligned}$ | $\begin{gathered} \mathrm{H} \\ {[\mathrm{~mm}]} \end{gathered}$ |  |
| MSM 019A | 50 | 0,16 | 0,48 | 5.000 | 38 | 72/102 | 25 | 8 | 30 | 45 | 3,4 | 51 | $\begin{gathered} \text { IP54 } \\ \text { (shaft IP40) } \end{gathered}$ |
| MSM 019B | 100 | 0,32 | 0,95 | 5.000 | 38 | 92/122 | 25 | 8 | 30 | 45 | 3,4 | 51 |  |
| MSM 031B | 200 | 0,64 | 1,91 | 5.000 | 60 | 79/115,5 | 30 | 11 | 50 | 70 | 4,5 | 73 |  |
| MSM 031C | 400 | 1,3 | 3,8 | 5.000 | 60 | 98,5/135 | 30 | 14 | 50 | 70 | 4,5 | 73 |  |
| MSM 041B | 750 | 2,4 | 7,1 | 4.500 | 80 | 112/149 | 35 | 19 | 70 | 90 | 6 | 93 |  |

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