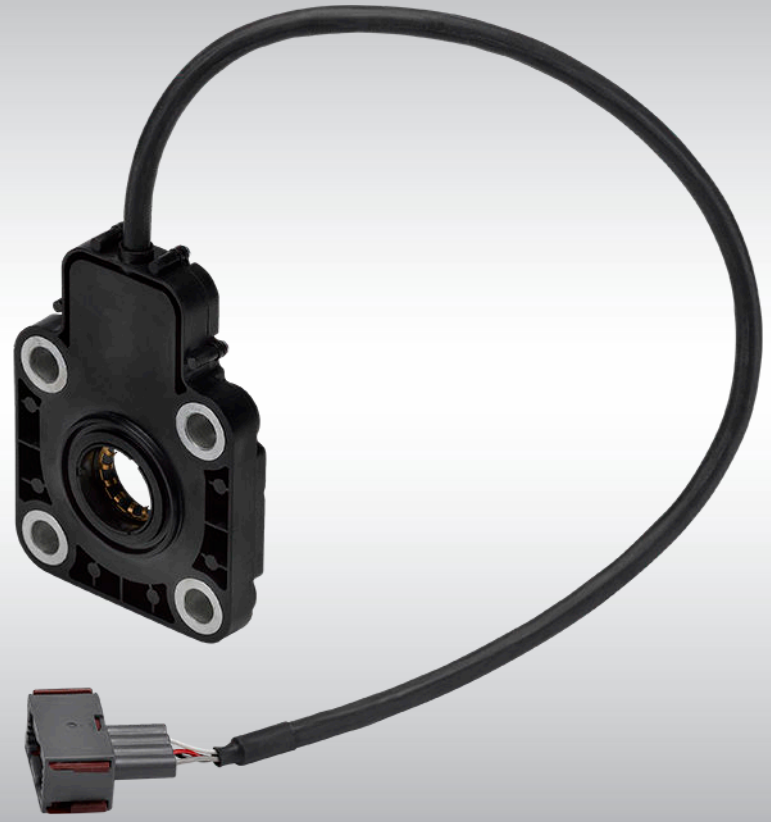
MAKING MODERN LIVING POSSIBLE

Electrical Installation

Sensor

Steering Angle Sensor Absolute (SASA)



Revision history

Table of revisions

Date	Changed	Rev
September 2015	Minor layout revision	BB
April 2014	Converted to Danfoss layout-DITA CMS	BA
April 2007	First edition	AA

Contents

Literature references

SASA literature references....4
Latest version of technical literature....4

Product overview

SASA image....5
SASA model code....5
SASA description/theory of operation....5
SASA electrical specifications....6

Electrical installation

SASA pinout....7
SASA pin compatibility....7
SASA mating connector....7

Literature references

SASA literature references

References

Literature ID number	Title	Description
520L0942	*Steering Angle Sensor Absolute (SASA) Data Sheet*	Summary of product functionality and specifications, including pin out map and mating connector information, and related product part numbers
11022927	*PLUS+1® Compliant SASA Function Block User Manual*	Compliant function block set-up information

Latest version of technical literature

Danfoss product literature is online at: *http://powersolutions.danfoss.com/literature/*

Product overview

SASA image

Steering Angle Sensor Absolute (SASA)

SASA model code

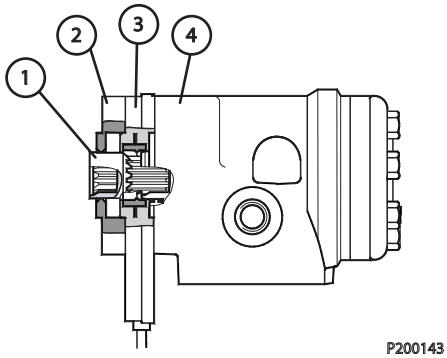
SASA ordering number and specifications

Order Number	Termination resistor	Cable length	AMP® connector
150Z6010	No	500 mm	2-967059-1
150Z6012	120 Ω	500 mm	2-967059-1

SASA description/theory of operation

The Steering Angle Sensor Absolute (SASA) detects the absolute position and speed of the steering wheel. The sensor can be used in electrohydraulic steering systems using Danfoss EH or EHPS steering valves with programmable controller. The SASA sensor is relevant, for example, to variable steering ratio and closed loop set-ups where steering wheel position and steering angle have to match. SASA is based on a non-contact inductive principle giving a very high resolution. The sensor features a robust design that is for instance resistant to electro-magnetic radiation. The output is a CAN signal, which makes it easy to interface with advanced vehicle controllers. The steering wheel shaft turns the rotor of the SASA sensor, which is simply mounted between steering unit and steering column with 4 bolts torqued to a maximum of 30 N•m (265.5 lbf•in). The shaft in the column must be 15 mm (0.59 in) longer, therefore, when using the original steering column use a SAK adapter kit.

SAK adapter kit on SASA



Product overview

SAK adapter kit on SASA illustration callouts

Callout	Description
1	Shaft
2	Distance plate
3	Steeing Angle Sensor Absolute (SASA)
4	OSP steering unit

SASA electrical specifications

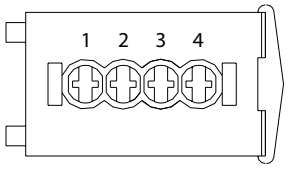
Electrical

Supports	CAN 2.0B with SAE J1939 message protocol with proprietary messages
Supply voltage (Vs)	9 to 32 Vdc
Maximum power (W)	1 W
Temperature range	-30° C to 85° C (-22° F to 185° F)
CAN bus baud rate	250 KB default, adjustable 125 or 500 KB

Electrical installation

SASA pinout

Pin location



P200144

Pinout

Pin	Description
1	CAN low
2	+ Supply voltage
3	Ground
4	CAN high

SASA pin compatibility

PLUS+1® module pin type/ SASA output pin compatibility

PLUS+1® module pin type	Acceptable use: Device pin number
CAN -	1
Sensor power +	2
Sensor power -	3
CAN +	4

SASA mating connector

SASA mating connector parts list

Description	Quantity	Ordering number
Connector	1	AMP® 2-965 261-1
Pins	4	AMP® 962 915
Seal	4	AMP® 828 904

Products we offer:

- Bent Axis Motors
- Closed Circuit Axial Piston Pumps and Motors
- Displays
- Electrohydraulic Power Steering
- Electrohydraulics
- Hydraulic Power Steering
- Integrated Systems
- Joysticks and Control Handles
- Microcontrollers and Software
- Open Circuit Axial Piston Pumps
- Orbital Motors
- PLUS+1® GUIDE
- Proportional Valves
- Sensors
- Steering
- Transit Mixer Drives

Danfoss Power Solutions is a global manufacturer and supplier of high-quality hydraulic and electronic components. We specialize in providing state-of-the-art technology and solutions that excel in the harsh operating conditions of the mobile off-highway market. Building on our extensive applications expertise, we work closely with our customers to ensure exceptional performance for a broad range of off-highway vehicles.

We help OEMs around the world speed up system development, reduce costs and bring vehicles to market faster.

Danfoss – Your Strongest Partner in Mobile Hydraulics.

Go to www.powersolutions.danfoss.com for further product information.

Wherever off-highway vehicles are at work, so is Danfoss. We offer expert worldwide support for our customers, ensuring the best possible solutions for outstanding performance. And with an extensive network of Global Service Partners, we also provide comprehensive global service for all of our components.

Please contact the Danfoss Power Solution representative nearest you.

Comatrol
www.comatrol.com

Schwarzmüller-Inverter
www.schwarzmueller-inverter.com

Turolla
www.turollaocg.com

Hydro-Gear
www.hydro-gear.com

Daikin-Sauer-Danfoss
www.daikin-sauer-danfoss.com

Local address:

Danfoss
Power Solutions (US) Company
2800 East 13th Street
Ames, IA 50010, USA
Phone: +1 515 239 6000

Danfoss
Power Solutions GmbH & Co. OHG
Krokamp 35
D-24539 Neumünster, Germany
Phone: +49 4321 871 0

Danfoss
Power Solutions ApS
Nordborgvej 81
DK-6430 Nordborg, Denmark
Phone: +45 7488 2222

Danfoss
Power Solutions Trading (Shanghai) Co., Ltd.
Building #22, No. 1000 Jin Hai Rd
Jin Qiao, Pudong New District
Shanghai, China 201206
Phone: +86 21 3418 5200

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without changes being necessary in specifications already agreed.
All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.