KISTLER

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NC Compact Firmware

Type 2159A

Force/Displacement Monitoring for NC Joining Modules

NC Compact Firmware Type 2159A can be used for all Kistler NC joining modules with associated IndraDrive servo controller and integrated PLC.

- Single-channel force/displacement monitoring including process control
- Simple, fast configuration and operation
- Designed for touch screen operation
- Sample rate 1 kHz
- 16 programs available
- 3 windows for force/displacement monitoring per program
- 4 positions (home position/idle stroke/joining stroke/intermediate position) per program
- 4 functions selectable per program
- Simple OK/NOK statistics
- Fast shutdown in idle stroke

Description

With the NC Compact Firmware, standard joining processes with force/displacement monitoring can be implemented via the interface on the servo controller to the system PLC. The user is provided with a simple control and status word for control through the interface.

The process control, force/displacement evaluation, and window evaluation are all done in the servo controller. To evaluate a curve, 3 windows can be specified with which the assembly or joining process is monitored in the joining stroke in the pressure and forward direction. The windows are evaluated in real-time with the joining process. The user license includes the preinstalled application in the servo controller.

Applications

Initial start up of an assembly or joining process with NC Compact Firmware Type 2159A can be easily and quickly carried out using Operating Panel Type 2158A with touch screen operation. It displays force/displacement diagrams, windows, window values, parametrization, statistics and generates csv files (target and actual values inclusive curve developments). Data sets can be stored.

For each program, the following functions can be activated through the NC Compact Firmware:

- Joining on block
- Force control
- Joining to position with/without compression compensation
- Force-triggered positioning

Technical Data

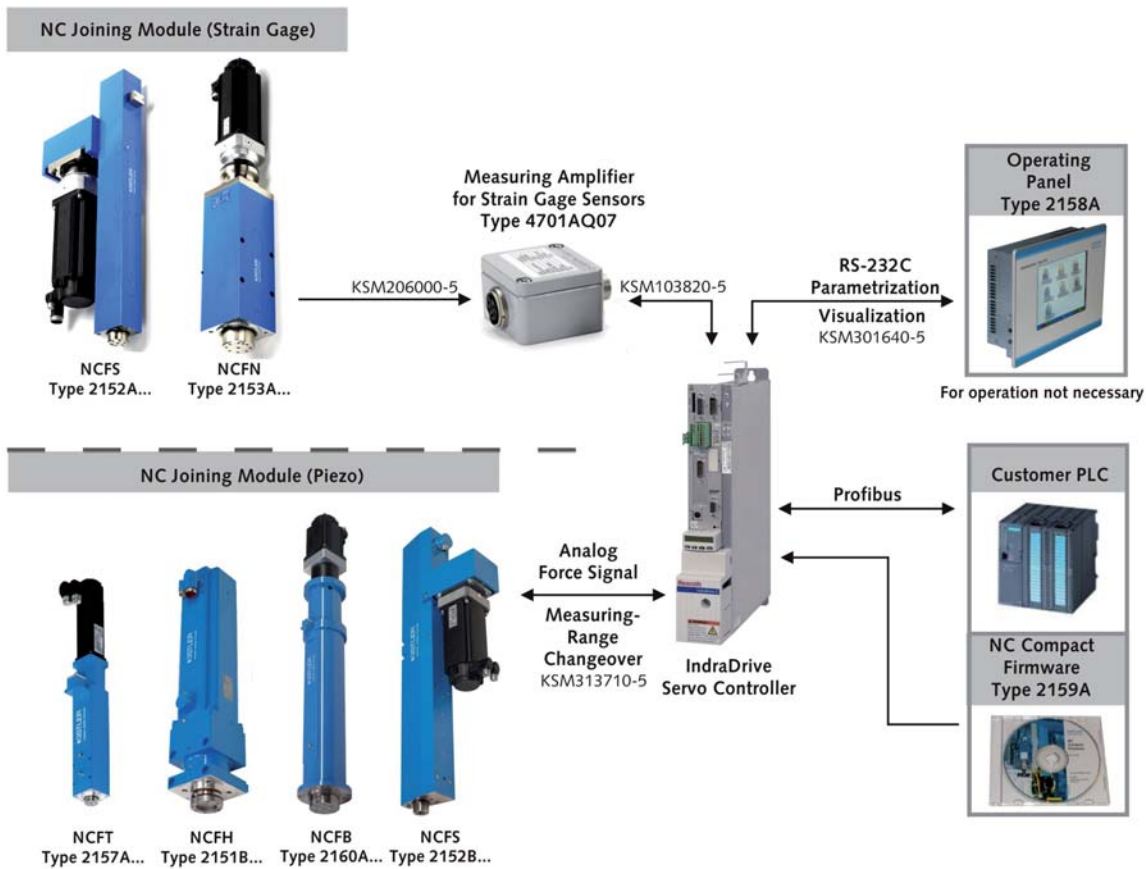| Servo Controller		Bosch-Rexroth Type IndraDrive
Interface		Profibus
Control voltage	VDC/W	24 (19,2 ... 28,8) /24
Power connection	V	400 (400 ... 500) ±10 %
	Hz	50/60 ±2 %
	Phases	3

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Functional Principle

NC Joining Module (Strain Gage)

NCFS Type 2152A…
NCFN Type 2153A…

Measuring Amplifier for Strain Gage Sensors Type 4701AQ07

KSM206000-5

KSM103820-5

Operating Panel Type 2158A

RS-232C Parametrization
Visualization
KSM301640-5

For operation not necessary

NC Joining Module (Piezo)

NCFT Type 2157A…
NCFH Type 2151B…
NCFB Type 2160A…
NCFS Type 2152B…

Analog Force Signal

Measuring-Range Changeover KSM313710-5

IndraDrive Servo Controller

Profibus

Customer PLC

NC Compact Firmware Type 2159A

Included Accessories
- None

Optional Accessories   Type/Art. No.
- NC Joining Module NCFB   2160A…
- NC Joining Module NCFH   2151B…
- NC Joining Module NCFS   2152A…
- NC Joining Module NCFN   2153A…
- NC Joining Module NCFT   2157A…
- Measuring amplifier
  for strain gage sensors   4701AQ07
- Operating Panel   2158A

NC joining module as well as servo controller and associated motor and feedback cable are listed in the corresponding data sheet for the NC joining module.

Other field buses besides Profibus on request.

Code   Type/Art. No.
- IndraDrive data cable   KSM301640-5
- Strain gage free/KD6 Tuchel cable   KSM103820-5
- NCF force transmitter cable   KSM313710-5
- NCFN(S) strain gage force cable   KSM206000-5

Other length on request

Ordering Key
NC Compact Firmware   **Type 2159A**

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