

Command and signalling devices

"N" program

Area of application

Series N was originally developed for the specific requirements of food industry mechanical engineering. The command and signalling devices of the machines for this branch of industry must comply with strict hygiene requirements and be easy to clean.

Series N command and signalling devices meet the requirements of Protection class IP69K. This means that even when cleaned on a regular basis using high-pressure cleaners they have an outstanding long service life. They were designed on the basis of the general design concepts for hygienic construction of food processing machinery (EN 1762-2). This means, for example, that the geometry of the devices has no sharp edges. Type examination carried out by the Meat Trade Association confirmed that the design of the N programme was hygiene-appropriate.

In addition, the devices are clean room-approved and also due to their resistance to spray water, they are deployed in outdoor-applications, e.g. on municipal vehicles and in car washes. Apart from this, they are tried and tested in extreme applications in food processing, e.g. fish filleting and packaging lines that are installed directly on trawlers.

Design and way of functioning

The N series is of modular structure too which means that machine tool builders always have available a wide selection of different command and signalling devices. The device heads each have one mounting flange that provides effective sealing in conjunction with a labyrinth seal. The EF contact system (see page 62) is used in exactly the same way as with the series.

The N range is characterised by the short actuating stroke of the command devices and the high protection class even behind the front plate. This is a significant benefit in butchers' machines, for example, since condensation can form inside the machines.

The special features of the N range include main switches for up to 63 A. They allow design engineers to design the entire control unit of a (food) machine using just one range of products.

Program-Overview		Page
1	EMERGENCY STOP	28
2	Pushbutton	32
3	Mushroom head impact button/ EMERGENCY STOP pushbutton	34
4	Selector switch/key button	36
5	Illuminated pushbutton	32
6	Illuminated signal	30
7	Step selector switch	40
8	Potentiometer drive	40
9	Mounting flange EFM	63
10	Mounting flange EFMH	-
11	Short-stroke key element	-
12	Mounting flange ELM	63
13	Contact element EF	63
14	Spring element EFR	63
15	Securing plate	-
16	Position switches	-
17	Contact element EFK...	-
18	Light terminal block ELDE...	63
19	Light terminal block EL...	63
20	EMERGENCY STOP label	66
21	EMERGENCY STOP protective collar	66
22	Identification label	66
23	Stainless steel enclosure for surface mounting	70
24	Adapter ring	68
25	Blanking plug	66



Command and signalling devices – N programme

Main switches



■ NHS16/2-pol



■ NHS40



■ NHS63

Key Features

General description	Main switches 16A	Main switches 40A	Main switches 63A
Area of application	Food, hygiene and outdoor applications	Food, hygiene and outdoor applications	Food, hygiene and outdoor applications
Mounting	Ø 22.3 mm	110 x 110 mm or Ø 22.3 mm	110 x 110 mm or Ø 22.3 mm
Housing material			
Material of operating element	Thermoplastic	Thermoplastic	Thermoplastic
Material front ring	ABS, chrome-plated	ABS, chrome-plated	ABS, chrome-plated

Other designs are available

EMERGENCY STOP design	■	■	■
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Technical features

Mechanical data			
Colour of the operating element	■ ■	■ ■	■ ■
Colour of seal	■	■	■
Design	round	Square	Square
Front panel thickness	1...6 mm	1...6 mm	1...6 mm
Maintained switching positions	2 positions	2 positions	2 positions
Mounting			
Mounting flange incl. in delivery	–	–	–
Integrated mounting plate	■	■	■
Mounting position	any	any	any
Ambient temperatures			
open	–25 °C ... +50 °C	–25 °C ... +50 °C	–25 °C ... +50 °C
Enclosed	–25 °C ... +40 °C	–25 °C ... +40 °C	–25 °C ... +40 °C
IP Protection class	IP69K	IP69K	IP69K

Safety classification

Standards	IEC EN 60947, IEC EN 60204; UL 508; CSA22.2 No. 14	IEC EN 60947, IEC EN 60204; UL 508; CSA22.2 No. 14	IEC EN 60947, IEC EN 60204; UL 508; CSA22.2 No. 14
Mechanical life	1,000,000 operations	100,000 operations	100,000 operations
Certificates			

Command and signalling devices – N programme

Main switches

Type	Series	Description			A	B	C	Type designation	Material number
Main switches	NHS16	16 A, 2-pole	Standard	With black grip	29	22.3	70 x 80	NHS16/2-POL	101204196
			EMERGENCY STOP	With red grip + yellow background	29	22.3	Ø 100	NHSNH16/2-POL	101209839
		16 A, 4-pole	Standard	With black grip	29	22.3	70 x 80	NHS16/4-POL	103002746
			EMERGENCY STOP	With red grip + yellow background	29	22.3	Ø 100	NHSNH16/4-POL	103002747
	NHS40	40 A, 3-pole	Standard	With black grip	29	22.3	110 x 110	NHS40	101185098
			EMERGENCY STOP	With red grip + yellow background	29	22.3	110 x 110	NHSNH40	101185097
	NHS63	63 A, 3-pole	Standard	With black grip	29	22.3	110 x 110	NHS63	101184920
			EMERGENCY STOP	With red grip + yellow background	29	22.3	110 x 110	NHSNH63	101184919

All dimensions in mm.

Key

A	Height	Height of command device in front of the front panel
B	Mounting-Ø	Installation diameter for the command device head
C	Panel size	Dimensions of panel (if present)