HyPro+

Easy Movement

The latest further development of the HyPro series extends the HyPro-8 with a 3.2 inch TFT colour display. This allows the display of any data feedback in high resolution. Configurable and programmable via NBB programming tools.

> Operating elements

Joysticks	Up to 8 single-axis (MSA1)
Joystick options	– Black or red protective joysticks – Stepped travel activation
Digital on/off switch	– Up to 16 on/off functions available via toggle switches, push buttons, rotary switches, key switch, etc.* – Deck of push buttons included
Additional analog functions	Up to 4 analog devices such as potentiometers
Cable control interface	1 x CAN I/O for machine control and feedback

*Consult NNB for available combinations.

Additional dust and shock protection
– protectors (optional)
– bellows joysticks (optional)

3.2 inch TFT colour display
(customer-specific programming)

Compact, ergonomic housing

Key switch at the side

Opt. 1: NiMH battery (7.2 VDC / 2,400 mAh)
Opt. 2: Li-Ion battery (7.2 VDC / 3,500 mAh)

EMERGENCY STOP at the side (only necessary for transmitters with toggle switches)

Illustration contains optional equipment.

> Technology

| SMJ | Proximity detection | Teach-in function | Multi-user system | NBB battery system | LBT frequency search | Data feedback | Inclination sensor | Radiokey |

Technical data

Technical information

Frequency range	419 MHz, 429 MHz, 434 MHz, 868 MHz, 915 MHz, (2.4 GHz) (depending on customer requirements and country-specific regulations)
RF power	≤ 1 mW, ≤ 10 mW, ≤ 25 mW (depending on frequency range and country-specific regulations)
Typical working range	≤ 100 m (depending on environmental conditions)
Frequency channel search, automatic	LBT-Modus (Listen Before Talk) (depending on country and function configuration)
Antenna	Integrated
Typical response time of the control commands	Approx. 50 ms
LF modulation method	FSK / GFSK
Datarate	9,600 Baud (Bit/sec.) at SubGHz / 250 k at 2.4 GHz
Ø Current consumption (depending on the expansion level)	Approx. 100 mA
Prewarning time „Battery empty"	Approx. 15 minutes
Acoustic response	Integrated buzzer, customized setting
LCD/TFT display	3.2 inch TFT-display (800 x 480 px), customised illustration possible
Energy saving function (Standby)	Standard: after 60 min. Optional: Setting according to customer requirements (continuous operation possible)

Machine data

Ambient operating temperature	-20 °C up to +70 °C (NiMH battery) -20 °C up to +60 °C (Li-Ion battery)
Weight	1,500 g
Dimensions (L x W x H)	280 mm x 160 mm x 141 mm (without protectors)
Case material	Impact resistant, glass fiber reinforced polyamide

Equipment safety

CE certification	Yes
Protection class	IP67 (IP65 depending on used control elements)
Data security	Addressing of each transmitter by unique bit combination
EMERGENCY STOP or STOP function	Yes (sending stop telegrams for 2 sec.)

Power supply

Power supply	Option 1: NiMH battery (7.2 VDC / 2,400 mAh), pluggable Option 2: Li-Ion battery (7.2 VDC / 3,500 mAh), pluggable
Operating time	Option 1: up to 24 hours Option 2: up to 35 hours
Loading form	Standard: Externally, via a separate charger Optional: Via additionally built-in CAN bus connector with integrated battery charging functionality
Charger available for (UE)	110 VAC – 230 VAC, 12/24 VDC
Plug form AC (adapter set)	EU, USA / JP, GB, AU
Plug form DC	Car charger plug

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