

control unit with drive/brake controller VNS0

Applications

- * human-electrical-interface
- * urban transportation vehicles, e.g. tram
- * setpoint master controller for railway applications:
locomotives, track construction machines, power units

Features

- * modular ergonomic construction for rough operating environment
- * forward-backward adjustment of drive-brake-master-controller
- * design for series- and client-specific versions
- * long life design for high reliability, practically tested since years
- * unit version with drive-brake-master-controller, reverser, key operated selector switch, push buttons,...
- * drive deliverable with momentary positions, notching positions or stepless, combinations possible
- * contact sequences according to customer requirements
- * standard-, T-, ball-, knob- or mushroom-handles with additional functions for deadman, horn,...
- * possibility of driver monitoring by driver:
e.g., pushing or turning handle, activating pushbutton or sensor
- * mechanical interlock of lever
- * different practically tested switching elements (cam operated):
 - * dependent positive action, forced brake
 - * independent positive (snap) action, forced brake
- * potentiometer, transmitter for potentiometer (current, voltage)
- * optoelectronic encoder with code, voltage or current output
- * CAN-Bus-interface,
- * resistant against ozone, UV-radiation
- * rubber boot, slotcover with or without brush
- * on demand wiring acc. specification on terminals or connectors

Technical data

- * rated insulation voltage U_i 400V
- * with microswitches (S800 or S826):

voltage	current: S800	S826
* AC15: $U_e = 230\text{ V-50/60 Hz}$	- $I_e = 3\text{ A}$	1 A
* DC13: $U_e = 110\text{ V}$	- $I_e = 1\text{ A}$	0,5 A
- * contact elements in IP40
- * mechanical life time up to 10 mio. cycles
- * rated insulation voltage: 4 kV
- * pollution degree 3
- * with double contact elements:

rated operational voltage	rated operational current
* AC12: $U_e = 230\text{ V-50/60 Hz}$	- $I_e = 16\text{ A}$
* AC15: $U_e = 230\text{ V-50/60 Hz}$	- $I_e = 6\text{ A}$
* DC12: $U_e = 24\text{ V}$	- $I_e = 1,7\text{ A}$
* DC13: $U_e = 24\text{ V}$	- $I_e = 1,1\text{ A}$
- * mechanical life (drive) up to 20 mio. cycles
- * protection on front (DIN EN 60529) IP40...IP54
- * maximum lever deflection $38^\circ/45^\circ$
- * max. number of lever position 7-0-7
- * ambient temperature range $-20\text{ }^\circ\text{C} \dots +60\text{ }^\circ\text{C}$
- * regulations
 - * IEC60947-1, DIN EN 60947-1, VDE 0660 part 100
 - * IEC60947-5-1, DIN EN 60947-5-1, VDE 0660 part 200
 - * tested acc. to EN50155 10.2.3 (EN60068-2-1, Ad $-35\text{ }^\circ\text{C}$) cold
 - * tested acc. to EN50155 10.2.4 (EN60068-2-2, $+70\text{ }^\circ\text{C}$) dry heat
 - * tested acc. to EN50155 10.2.5 (EN60068-2-30) humid heat
 - * tested acc. to critical frequency, vibration, shock
 - * encoder acc. to EN50121-3
 - * EN50155

