









ISD - Integral System Diagnostics

Fail-safe standstill monitors FWS

The fail-safe standstill monitors LED display to show the different switching conditions and faults. The tables show the different switching conditions.

LED lights up green	<ul style="list-style-type: none"> • Enabling paths are closed
LED flashes yellow (2 Hz)	<ul style="list-style-type: none"> • Motor running, the limit frequency is exceeded, the enabling paths are open
LED flashes yellow (0,5 Hz)	<ul style="list-style-type: none"> • With two proximity switches connected, only one switch is below the limit frequency, the enabling paths are open

By fault messages, the LED lights up orange in intervals. During these intervals the LED flashes in short pulses from one to eight times.

Display (orange)	Fault	Cause
LED 1 pulse 	<ul style="list-style-type: none"> • Sensor 1 frequency too low • Input X1, only for FWS 1205/1206 • Input X2, only for FWS 2105/2106/2505/2506 • Input X3, only for FWS 2316 	<ul style="list-style-type: none"> • Defective incoming connection or defective proximity switch
LED 2 pulses 	<ul style="list-style-type: none"> • Sensor 2 frequency too low • Input X2, only for FWS 1205/1206 • Input X4, only for FWS 2105/2106/2505/2506 • Input X5, only for FWS 2316 	<ul style="list-style-type: none"> • Defective incoming connection or defective proximity switch • With only one proximity switch, jumper X1/X2 missing, only for FWS 1206
LED 3 pulses 	<ul style="list-style-type: none"> • Cross-wire monitoring, only for FWS 2316 	<ul style="list-style-type: none"> • One or both proximity switches supply no output voltage: Proximity switch defective, not mounted or leads interrupted, only for FWS 2316 • Cross-wire monitoring of the proximity switches, only for FWS 2316
LED 4 pulses 	<ul style="list-style-type: none"> • Fault signals on the inputs, no safe evaluation 	<ul style="list-style-type: none"> • Too high capacitive or inductive coupling on the inputs or incoming power supply leads
LED 5 pulses 	<ul style="list-style-type: none"> • One or both relays not pulled in within a monitored time 	<ul style="list-style-type: none"> • Operating voltage U_e too low • Defective relay
LED 6 pulses 	<ul style="list-style-type: none"> • Relay not dropped out on actuation of switch 	<ul style="list-style-type: none"> • Welded relay contact
LED 7 pulses 	<ul style="list-style-type: none"> • Fault signals on internal data connections 	<ul style="list-style-type: none"> • Fault on the internal data transmission due to excessive capacitive or inductive coupling on the internal data connections
LED 8 pulses 	<ul style="list-style-type: none"> • Additional standstill signal, only for FWS 1206/2106/2506 	<ul style="list-style-type: none"> • The condition of the additional standstill signal does not correspond to the detected frequencies, e.g. the additional signal shows standstill but the proximity switch indicates limit frequency exceeded

*** Partial actuation**

Switch position in which only one contact has been actuated.

Deletion of fault indication

The fault indication is deleted when the error cause has been eliminated and the AES could check all the functions.

In case of a fault of switch 1 or switch 2, the appropriate switch must be actuated (open and re-close safety guard).

For all other faults, both switches must be actuated.