

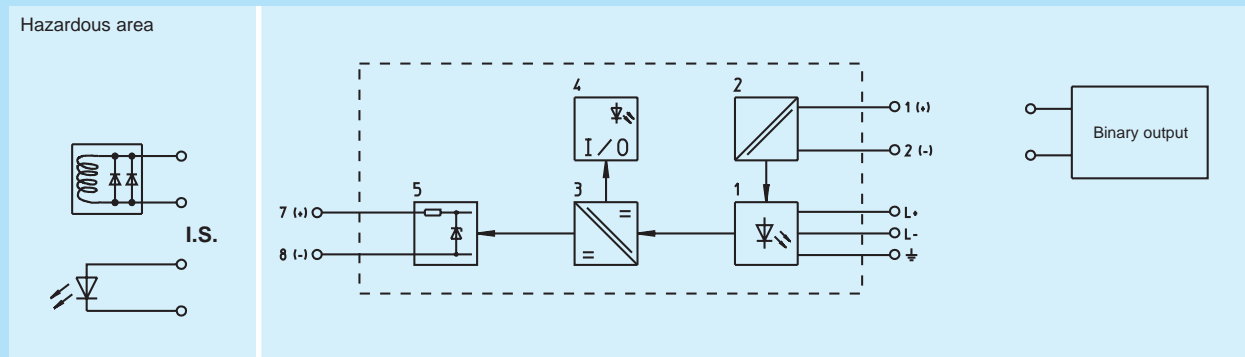
I.S. Isolators (DIN Rail Mounting) Digital Output Type 9351

- Intrinsically safe output [IEEx ia] IIC
- Galvanic isolation between input, output and power supply
- Power supply 18 .. 35 V DC
- One device for two operating modes:
 - with control input and power supply
 - loop powered
- Versions for practically all valves
- Installation in Zone 2 (Div 2) possible
- EMC tested, CE marking

Basic function: binary/digital output, 1 channel.

The digital outputs are used for intrinsically safe operation of solenoid valves, LED indicating lamps etc.

STAHL



Selection table	
Output signal (safety values)	Ordering code
5 V / 200 mA	9351 / 10-10-10
8 V / 150 mA	9351 / 10-11-10
12,6 V / 150 mA	9351 / 10-12-10
16 V / 250 mA	9351 / 10-13-10
19 V / 330 mA	9351 / 10-14-10
24 V / 85 mA	9351 / 10-15-10
28 V / 110 mA	9351 / 10-16-10
28 V / 270 mA	9351 / 10-17-10

Safety data for output	
Certifications	BVS (Europe, CENELEC), CSA (Canada), SEV (Switzerland), FTZU (Czech Republic), EVPU (Slovakia), BKI (Hungary), KDB (Poland), VNIIEF (Russia), FM (USA)
Marking	[EEx ia] IIC/IIB according to CENELEC
Classification	associated electrical apparatus

Safe maximum values (CENELEC)									
Types 9351 / ...		10-10-10	10-11-10	10-12-10	10-13-10	10-14-10	10-15-10	10-16-10	10-17-10
Max. voltage	U_m [V]	5	8	12,6	16	19	24	28	28
Max. current	I_m [mA]	200	150	150	250	330	85	110	270
Max. power	P_m [mW]	394	300	473	1000	1567	510	770	1890
Max. capacitance for									
[EEx ia] IIC / IIB	C_a [μ F]	200/3000	13/160	1.2/5	0.5/1.9	0.24/1.1	0.12/0.68	0.07/0.5	-/0.5
Max. inductance for									
[EEx ia] IIC / IIB	L_a [mH]	0.5/4	1.3/7	1.3/7	0.27/2.7	0.18/1.45	5.5/20	3/12	-/2.2

Further information and combination of values, see certifications

Technical data
Power supply

 Rated voltage U_N
 Voltage range

 24 V DC
 18..35 V

Types 9351 /		10-10-10	10-11-10	10-12-10	10-13-10	10-14-10	10-15-10	10-16-10	10-17-10
Rated current (for $R_{L,min}$)	I_N [mA] ≤	70	80	90	105	120	95	105	125
Power consumption (for $R_{L,min}$)	[W]	1.7	1.9	2.2	2.5	2.9	2.3	2.5	3.1

Input

Control input:

Voltage for ON

 \geq 5 V

Voltage for OFF

 \leq 2 V

Current

 \leq 5 mA

Max. permissible voltage

35 V

Signal input (control input disconnected):

 Voltage for ON U_E
 \geq 18 V

Voltage for OFF

 \leq 8 V

Current

 \leq 200 mA

Max. permissible voltage

35 V

Output

Types 9351 / ...		10-10-10	10-11-10	10-12-10	10-13-10	10-14-10	10-15-10	10-16-10	10-17-10
Internal resistance	R_i [Ω] ≤	20	75	115	85	80	370	310	140
Min.permissible load resistance	$R_{L,min}$ [Ω] ≥	25	0	30	85	200	100	300	375

Dimensions (Casing type A), mechanical data, ambient conditions and accessories see page 3/58f.

Selection and application				
Solenoid valve			Solenoid valve	
Asco	IM 12	9351/10-16-10	Honeywell	488660 9351/10-16-10 488670 9351/10-16-10 490885 9351/10-15-10 490890 9351/10-15-10 490895 9351/10-15-10
Bürkert	6013/AC10 6014/AC10 6104/G1 642 735 6106/AC21	9351/10-16-10 9351/10-16-10 9351/10-16-10 9351/10-16-10	Nass Magnet	1259 060450/5142 9351/10-16-10
Herion	2001 (Booster) 2002 (Booster) 2010 2011 2012 2013 2014 2015 2016	9351/10-15-10 9351/10-15-10 9351/10-13-10 9351/10-13-10 9351/10-14-10 9351/10-14-10 9351/10-16-10 9351/10-16-10 9351/10-16-10	Numatics	92088 9351/10-16-10 92089 9351/10-16-10 L1-I 9351/10-16-10 L2-I 9351/10-16-10 SPA3 9351/10-16-10
Hoerbiger	Piezo 2000 P8 381-RFC	9351/10-16-10	Samson	3701, 3775, 3962, 3963 -11 9351/10-11-10 -12 9351/10-15-10 -14 9351/10-11-10 -15 9351/10-15-10 -16 9351/10-15-10 -17 9351/10-16-10
Honeywell	481850 481860 482160 483330.01 (Booster) 483960 488650	9351/10-16-10 9351/10-16-10 9351/10-13-10 9351/10-16-10 9351/10-16-10 9351/10-16-10	Telektron	L 9351/10-16-10
			Versa	P-3205-98-XISF-24V 9351/10-15-10
			further types of valves on request	
Indicating lamps:				
R. STAHL	8415	9351/10-16-10		

Operating mode 1 (loop powered) is recommended as the normal operating mode. Because no additional power is fed to the isolator, functional safety of the output is increased. No fault inside the isolator can switch the output to "ON", if the (safe) signal "OFF" is applied to the signal input.

Operating mode 2 (with power supply) must be used, if the controlling binary/digital output of the automation system cannot supply the required current (see technical data). In addition, the mode with power supply permits a faster switching action.