

Relays

Mini relays F4

Characteristic quantities

Rated voltage	U_N	12 V
Release voltage	$U_{85/86r}$	$\geq 1,6$ V (23 °C)
Upper limit temperature	ϑ_{\max}	155 °C
Thermal resistance	R_{ϑ}	40 K/W
Ambient temperature	ϑ_{amb}	-40 °C...+85 °C
Max. switching frequency	$f_{S\max}$	20 Hz
Response time (typ.)	t_{OP}	7,5 ms
Graphical symbol		See connection diagram

Relays

Mini relays F4

NO relays

BOSCH
Part number Tyco
Mercedes-Benz-Part number

0 986 332 040
V23134-B0052-X336
002 542 13 19

Technical data for contact side

Contact material		Ag
Minimum recommended current	$I_{Smin} (U_s = 13,5 V)$	1 A
Max. switching current ²⁾ - Make	I_{Smax} on ³⁾ / off	120 A / 60 A
Limiting continuous current - Make	I_{SN} at 23 °C / 85 °C	60 A / 40 A
Voltage drop - Make (typ.)	10 A contact current	20 mV
Increase in coil temperature (typ.)	10 A contact current	4 K
Mechanical endurance (without load)		≈ 1 x 10 ⁷ cycles
Electrical endurance ⁴⁾	$U_s = 13,0 V$	> 2 x 10 ⁵ cycles

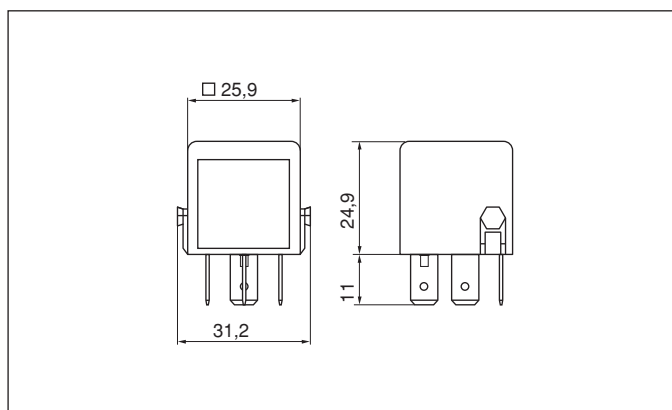
²⁾ The values apply to a resistive or inductive load with suitable spark suppression. ³⁾ This current may flow for a maximum of 3 s for a make / break ratio of 1:10.
⁴⁾ for an inductive load 500 µH, 80 A/30 A on/off current, 0,5 s/0,5 s.

Technical data for energizing side

Operate voltage ¹⁾	$U_{85/86op}$	≤ 7,4 V
Test voltage	U_P	500 V _{-eff}
Coil resistance ¹⁾	R_{Cu}	91 Ω±0 Ω
Parallel resistor	R_P	560 Ω
Total resistance	$R_{85/86}$	78,6 Ω±8 Ω
Continuous thermal load	P_{ϑ}	3,4 W
Nom. power consumption	P_N	1,6 W
Release time (typ.)	t_r	3,5 ms

¹⁾ At 23 °C coil temperature.

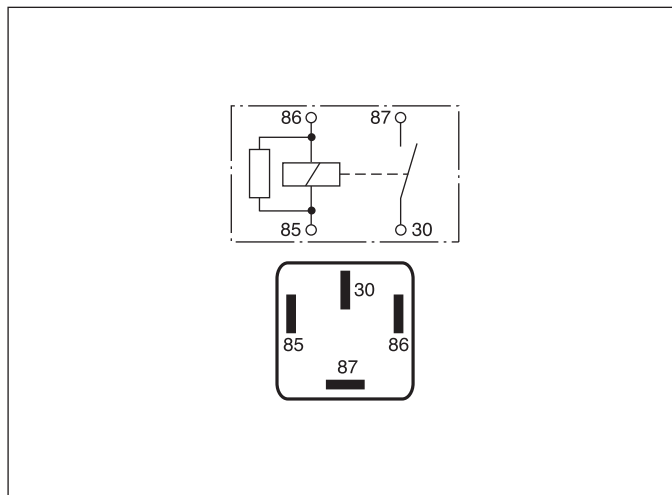
Dimensional drawing



Figure



Connection diagram



Relays

Mini relays F4

NO relays

BOSCH
Part number Tyco
Rover-Part number

0 986 332 071
V23134-B0052-X127
YWB 10012

Technical data for contact side

Contact material		Ag
Minimum recommended current	$I_{Smin} (U_s = 13,5 V)$	1 A
Max. switching current ²⁾ - Make	$I_{Smax} on^{3)} / off$	120 A / 60 A
Limiting continuous current - Make	$I_{SN} at 23 °C / 85 °C$	60 A / 40 A
Voltage drop - Make (typ.)	10 A contact current	100 mV
Increase in coil temperature (typ.)	10 A contact current	3 K
Mechanical endurance (without load)		> 1 x 10 ⁷ cycles
Electrical endurance ⁴⁾	$U_s = 13,5 V$	> 2 x 10 ⁵ cycles

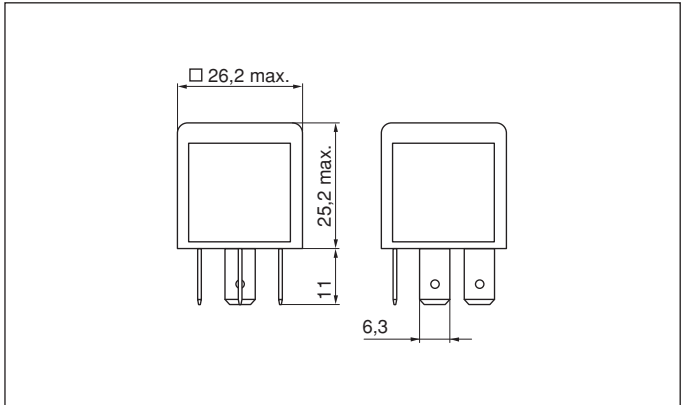
²⁾ The values apply to a resistive or inductive load with suitable spark suppression. ³⁾ This current may flow for a maximum of 3 s for a make/break ratio of 1:10.
⁴⁾ for an inductive load 500 µH, 60 A/40 A on/off current, 0.1 s/1.3 s.

Technical data for energizing side

Operate voltage ¹⁾	$U_{85/86op}$	≤ 7,2 V
Test voltage	U_P	500 V _{-rms}
Coil resistance ¹⁾	R_{Cu}	91 Ω ± 9 Ω
Parallel resistor	R_P	680 Ω
Total resistance	$R_{85/86}$	80 Ω ± 8 Ω
Continuous thermal load	P_{θ}	3,4 W
Nom. power consumption	P_N	1,8 W
Release time (typ.)	t_r	3,5 ms

¹⁾ At 23 °C coil temperature.

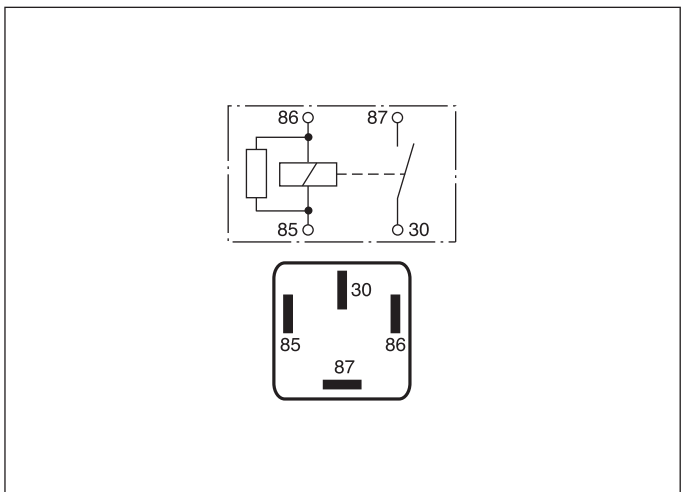
Dimensional drawing



Figure



Connection diagram



Relays

Mini relays F4

NO relays

BOSCH
Part number Tyco
Rover-Part number

0 986 332 072
V23134-B0052-X130
YWB 10027L

Technical data for contact side

Contact material		Ag
Minimum recommended current	$I_{Smin} (U_s = 13,5 V)$	1 A
Max. switching current ²⁾ - Make	I_{Smax} on ³⁾ / off	120 A / 60 A
Limiting continuous current - Make	I_{SN} at 23 °C / 85 °C	60 A / 40 A
Voltage drop - Make (typ.)	10 A contact current	100 mV
Increase in coil temperature (typ.)	10 A contact current	3 K
Mechanical endurance (without load)		> 1 x 10 ⁷ cycles
Electrical endurance ⁴⁾	$U_s = 13,5 V$	> 2 x 10 ⁵ cycles

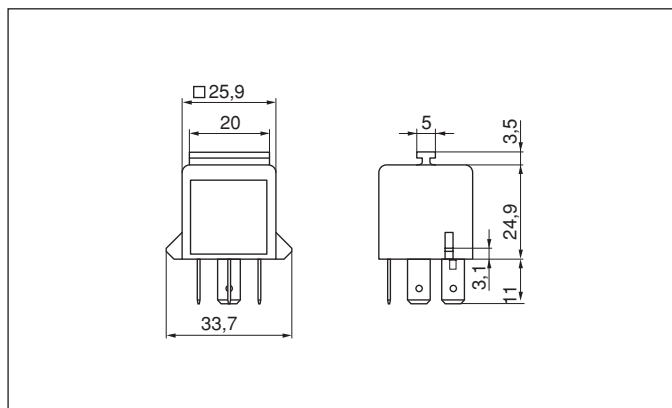
²⁾ The values apply to a resistive or inductive load with suitable spark suppression. ³⁾ This current may flow for a maximum of 3 s for a make/break ratio of 1:10.
⁴⁾ with a resistive load, 40 A inrush current, 0.1 s/1 s, $U_s = 13.5 V$ load voltage.

Technical data for energizing side

Operate voltage ¹⁾	$U_{85/86op}$	≤ 7,2 V
Test voltage	U_P	500 V _{-rms}
Coil resistance ¹⁾	R_{Cu}	91 Ω ± 9 Ω
Parallel resistor	R_P	680 Ω
Total resistance	$R_{85/86}$	80 Ω ± 8 Ω
Continuous thermal load	P_{ϑ}	3,4 W
Nom. power consumption	P_N	1,6 W
Release time (typ.)	t_r	3,5 ms

¹⁾ At 23 °C coil temperature.

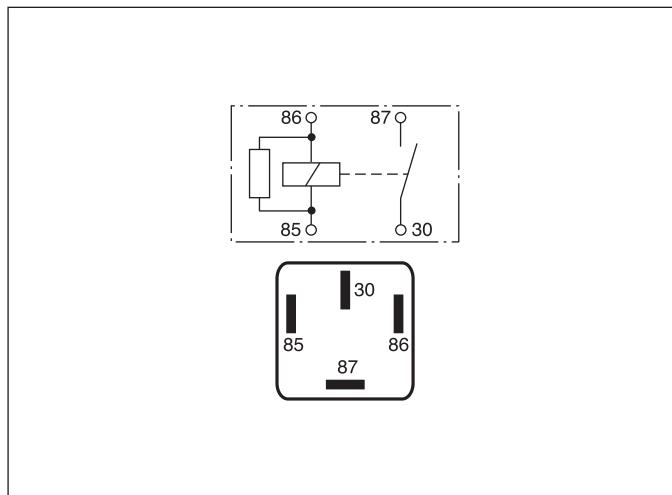
Dimensional drawing



Figure



Connection diagram



Relays

Mini relays F4

Change-over relay

BOSCH
Part number Tyco
Volvo-Part number

0 986 332 022
V23134-A0052-X345
9441160-0

Technical data for contact side

Contact material		AgSnO ₂
Minimum recommended current	$I_{Smin} (U_s = 13,5 V)$	1 A
Max. switching current ²⁾ - Break	$I_{Smax} on^3) / off$	45 A / 40 A
Max. switching current ²⁾ - Make	$I_{Smax} on^3) / off$	120 A / 60 A
Limiting continuous current - Break	$I_{SN} at 23 °C / 85 °C$	40 A / 30 A
Limiting continuous current - Make	$I_{SN} at 23 °C / 85 °C$	60 A / 40 A
Voltage drop - Break (typ.)	10 A contact current	100 mV
Voltage drop - Make (typ.)	10 A contact current	100 mV
Increase in coil temperature (typ.)	10 A contact current	3 K
Mechanical endurance (without load)		> 1 x 10 ⁷ cycles
Electrical endurance ⁴⁾		> 2 x 10 ⁵ cycles

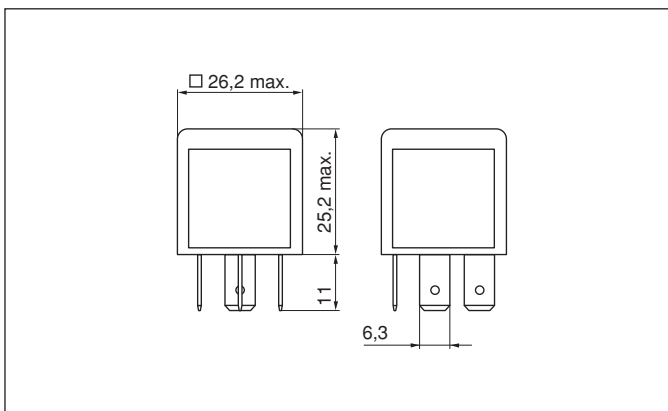
²⁾ $U_s = 13.5 V$ load voltage. ³⁾ This current may flow for a maximum of 3 s for a make/break ratio of 1:10. ⁴⁾ refer to Volvo specification 1282750 issue 05

Technical data for energizing side

Operate voltage ¹⁾	$U_{85/86op}$	≤ 7,2 V
Test voltage	U_P	500 V _{-eff}
Coil resistance ¹⁾	R_{Cu}	91 Ω±9 Ω
Total resistance	$R_{85/86}$	91 Ω±9 Ω
Nom. power consumption	P_N	1,6 W
Release time (typ.)	t_r	2,0 ms

¹⁾ At 23 °C coil temperature.

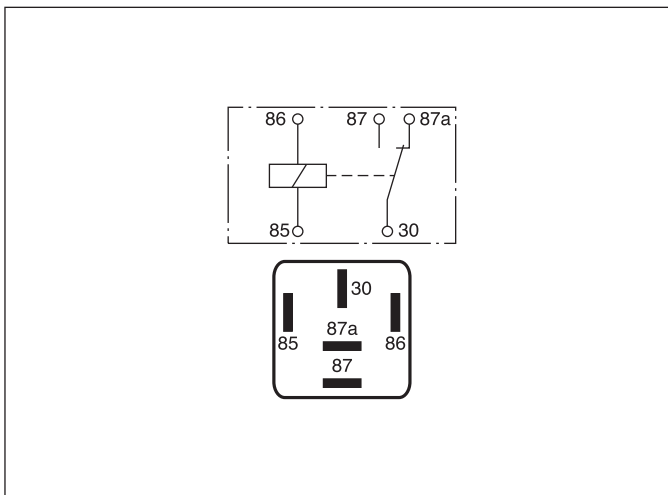
Dimensional drawing



Figure



Connection diagram



Relays

Mini relays F4

Change-over relay

BOSCH
Part number Tyco
Mercedes-Benz-Part number

0 986 332 041
V23134-A0052-X335
002 542 14 19

Technical data for contact side

Contact material		AgSnO ₂
Minimum recommended current	$I_{Smin} (U_s = 13,5 V)$	1 A
Max. switching current ²⁾ - Break	I_{Smax} on ³⁾ / off	90 A / 40 A
Max. switching current ²⁾ - Make	I_{Smax} on ³⁾ / off	200 A / 60 A
Limiting continuous current - Break	I_{SN} at 23 °C / 85 °C	40 A / 30 A
Limiting continuous current - Make	I_{SN} at 23 °C / 85 °C	40 A / 30 A
Voltage drop - Break (typ.)	10 A contact current	30 mV
Voltage drop - Make (typ.)	10 A contact current	30 mV
Increase in coil temperature (typ.)	10 A contact current	4 K
Mechanical endurance (without load)		> 1 x 10 ⁷ cycles
Electrical endurance ⁴⁾	$U_s = 13,5 V$	> 2 x 10 ⁵ cycles

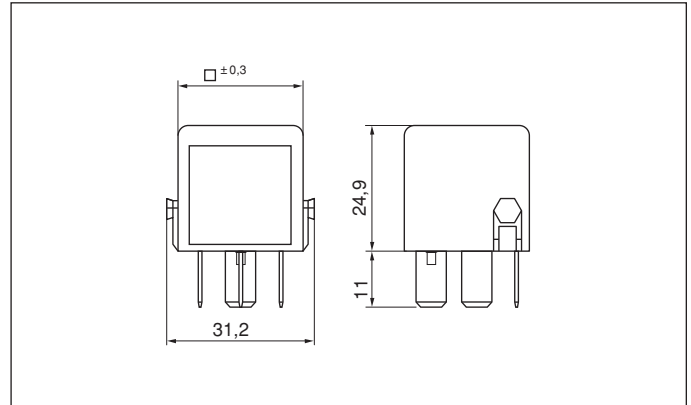
²⁾ The values apply to a resistive or inductive load with suitable spark suppression. ³⁾ This current may flow for a maximum of 3 s for a make/break ratio of 1:10.
⁴⁾ with resistive load, 80 A/30 A on/off current, 0,5 s / 1 s.

Technical data for energizing side

Operate voltage ¹⁾	$U_{85/86op}$	≤ 7,4 V
Test voltage	U_P	500 V _{-eff}
Coil resistance ¹⁾	R_{Cu}	91 Ω ± 0 Ω
Parallel resistor	R_P	560 Ω
Total resistance	$R_{85/86}$	78 Ω ± 8 Ω
Continuous thermal load	P_{ϑ}	3,4 W
Nom. power consumption	P_N	1,6 W
Release time (typ.)	t_r	3,5 ms

¹⁾ At 23 °C coil temperature.

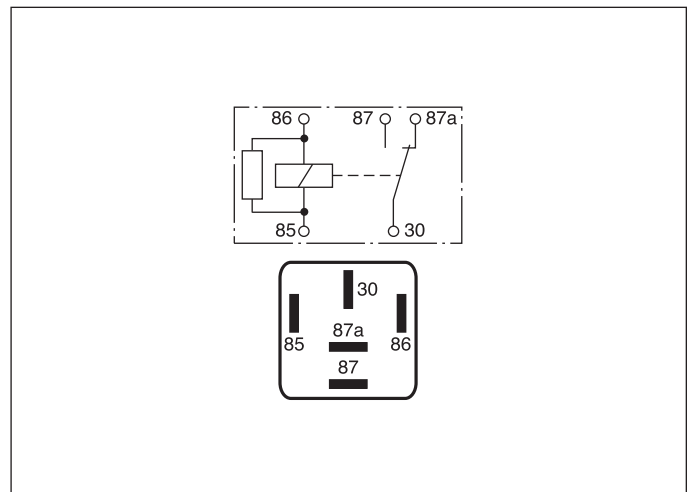
Dimensional drawing



Figure



Connection diagram



Relays

Mini relays F4

Change-over relay

BOSCH
Part number Tyco
Rover-Part number

0 986 332 073
V23134-A0052-X137
YWB 10032

Technical data for contact side

Contact material		AgNiO, 15
Minimum recommended current	$I_{Smin} (U_s = 13,5 V)$	1 A
Max. switching current ²⁾ - Break	$I_{Smax} on^3) / off$	45 A / 40 A
Max. switching current ²⁾ - Make	$I_{Smax} on^3) / off$	120 A / 60 A
Limiting continuous current - Break	$I_{SN} at 23 °C / 85 °C$	40 A / 30 A
Limiting continuous current - Make	$I_{SN} at 23 °C / 85 °C$	60 A / 40 A
Voltage drop - Break (typ.)	10 A contact current	100 mV
Voltage drop - Make (typ.)	10 A contact current	100 mV
Increase in coil temperature (typ.)	10 A contact current	3 K
Mechanical endurance (without load)		> 1 x 10 ⁷ cycles
Electrical endurance ⁴⁾	$U_s = 13,5 V$	> 2 x 10 ⁵ cycles

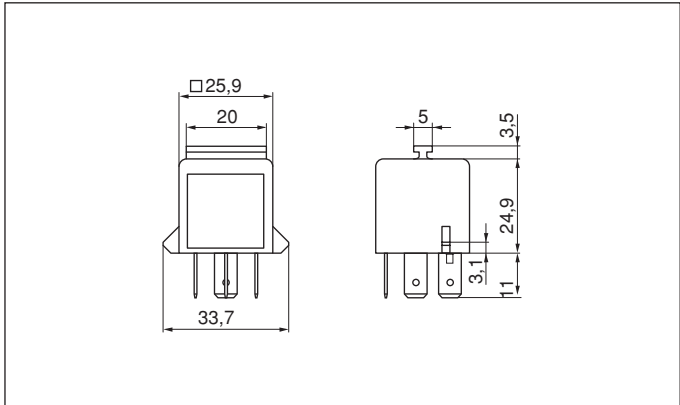
²⁾ The values apply to a resistive or inductive load with suitable spark suppression. ³⁾ This current may flow for a maximum of 3 s for a make/break ratio of 1:10.
⁴⁾ with a resistive load 40 A on make contact, 0.1 s/1 s.

Technical data for energizing side

Operate voltage ¹⁾	$U_{85/86op}$	≤ 7,2 V
Test voltage	U_P	500 V _{-eff}
Coil resistance ¹⁾	R_{Cu}	92 Ω ± 9 Ω
Parallel resistor	R_P	680 Ω
Total resistance	$R_{85/86}$	80 Ω ± 8 Ω
Continuous thermal load	P_{θ}	3,4 W
Nom. power consumption	P_N	1,6 W
Release time (typ.)	t_r	3,5 ms

¹⁾ At 23 °C coil temperature.

Dimensional drawing



Figure



Connection diagram

