



Service Manual Supplement

Lift Connect™ Telematics Ready Connector

Part No. 1294905GT
Rev B
December 2021

Introduction

Important

The purpose of this document is to provide device connections for OEM Telematics providers.

Read, understand and obey the safety rules and operating instructions.

This manual provides detailed information for the machine owner and Telematics provider.

Compliance

Wireless Certifications

- Telematic device(s) should comply with specific wireless carrier certifications where applicable and comply with the following:
 - N. America – PTCRB, FCC/IC
 - Europe – CE, RED 2014/53/EU
- Owners must verify the RF safety compliance in accordance with the Telematics device certifications.

Technical Publications

Genie has endeavored to deliver the highest degree of accuracy possible. However, continuous improvement of our products is a Genie policy. Therefore, product specifications are subject to change without notice.

Readers are encouraged to notify Genie of errors and send in suggestions for improvement. All communications will be carefully considered for future printings of this and all other manuals.

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First Edition, Second Printing

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Introduction

Revision History

Revision	Date	Section	Procedure / Page / Description
A	2/2019		Initial Release
B	12/2021	IO Specifications	Add legacy 8 pin TRC information
		TRC Function Pin Out	Add note for GS, GR, GRC and QS models

Safety Rules

General Safety



This machine is equipped with a connection for a telematics device. If a telematics device has been installed, additional information may need to be communicated to those that operate or service this machine and possibly the general public. Communications that need to be considered include:

- A hazard decal warning of the specific hazards related to the radio frequency exposure and the required steps to take so as to avoid them. This could apply to the operator, service personnel or even the general public.
- Additional operator and service training regarding the potential hazard.

If a telematics device has been installed, before placing the machine into service, it is the owners' responsibility to clearly understand the installed telematics device as it relates to its performance and market compliance and to ensure that the necessary steps have been taken to inform and train operators, service personnel and the general public (when applicable) regarding the potential hazards related to radio frequency exposure and how to avoid them.



Telematic devices are not approved for use on Genie models equipped with an EE rating.

Installing a Telematics device on an EE rated machine will invalidate the machine's EE rating.



Telematics I/O Specifications

Telematics Ready Connector

The telematics connector installed on all Genie machines starting in 2019 is a 12 pin Deutsch DT series panel mount receptacle. Depending on the equipment it may be an in-line receptacle.



Telematics Device Connector

OEM suppliers can connect their telematic devices by equipping it with a 12 pin Deutsch plug.



Telematics Ready Connector Components

Genie Telematics Ready Connector parts and tools are available through Genie Parts Sales.

Website: <http://www.genielift.com>
 Phone: (877) 367-5606
 Email: AWP.PartsSalesPO@terex.com

Genie part number	Description
54255GT	Receptacle lock, 12 pin (used with p/n 73730GT and 119070GT)
60435GT	Plug lock, 12 pin, 14-18 GA (used with p/n 119061)
61794GT	Deutsch Crimper
73713GT	Terminal Pin, 16-18 GA (used with p/n 73730GT and 119070GT)
73714GT	Terminal Socket, 16-18 GA (used with p/n 119061)
73730GT	Receptacle connector, Panel Mount, 12 pin, 14-18 GA
119061GT	Plug connector, 12 pin, 14-18 GA
119070GT	Receptacle connector, In Line, 12 pin, 14- 18 GA

Telematics I/O Specifications

Telematics Ready Connector Function Pin Out

Refer to the TRC I/O map to capture machine function states including the remote disable feature.

Unavailable I/O

Some Genie models do not support all of the discrete outputs. If a particular circuit feature is not available, it shall be left unconnected. There shall be no substitution or other optional wiring.

Refer to the appropriate *TRC Function Pin Out* for your model.

Basic TRC Connector I/O Map

Connector Pin-out	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	12, 24 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	12, 24 VDC	IC Engine Run, 12V = engine run, 0V = engine off DC Motor Controller Enable 24V = enabled, 0V = disabled	Monitor engine run hours (Engine powered models) Monitor machine run hours (Battery powered Models)
5	Digital Output 2	12, 24 VDC	Key Switch Activation 12/24V = key switch on	Monitor machine utilization
6	Digital Output 3	12, 24 VDC	Platform / Boom angle stowed status 12/24V = stowed, 0V = out of stow 12/24V = boom >55°, 0V = < 55°	Monitor platform stowed and out of stowed status Monitor boom angle status (GTH models)
7	Digital Input 1	12, 24 VDC	Remote Machine Disable Active Low Relay	Remote disable engine start
8	No Connection	X	X	X
9	No Connection	X	X	X
10	Digital Output 4	12, 24 VDC	Foot Switch Activation 12/24V = foot switch pressed	Monitor machine utilization
11	Databus H	CAN HIGH	CAN/J1939	SAE J1939 Messages
12	Databus L	CAN LOW	CAN/J1939	SAE J1939 Messages

Telematics I/O Specifications

Genie models produced between 2015 – 2019 may be equipped with an 8 pin Telematics Ready Connector. These machines will require an adapter harness to convert from a 12 pin telematics device to the 8 pin connector.

Refer to the Lift Connect Installation Instructions to determine the correct adapter harness for your machine.

Genie part number 1295251GT.

Legacy Telematics Ready Connector

The legacy telematics connector installed on Genie machines is an 8 pin Deutsch DT series panel mount receptacle. Depending on the equipment it may be an in-line receptacle.



Legacy Telematics Device Connector

OEM suppliers can connect their telematic devices by equipping it with a 8 pin Deutsch plug.



Legacy Telematics Ready Connector Components

Genie Telematics Ready Connector parts and tools are available through Genie Parts Sales.

Website: <http://www.genielift.com>
 Phone: (877) 367-5606
 Email: AWP.PartsSalesPO@terex.com

Genie part number	Description
61794GT	Deutsch Crimper
60433GT	Plug lock, 8 pin, 14-18 GA (used with p/n 119060GT)
60447GT	Receptacle lock, 8 pin (used with p/n 87755GT and 119069GT)
73713GT	Terminal Pin, 16-18 GA (used with p/n 87755GT and 119069GT)
73714GT	Terminal Socket, 16-18 GA (used with p/n 119060GT)
87755GT	Receptacle connector, 8 Pin, 14-18 GA
119060GT	Receptacle plug, 8 pin, 14-18 GA
119069GT	Receptacle connector, 8 Pin, 14-18 GA

Telematics I/O Specifications

Telematics Adapter Harness Pin Out

Refer to the TRC I/O map to capture machine function states including the remote disable feature.

Unavailable I/O

Some Genie models do not support all of the discrete outputs. If a particular circuit feature is not available, it shall be left unconnected. There shall be no substitution or other optional wiring.

Refer to the appropriate *TRC Function Pin Out* for your model.

Legacy 8 pin TRC to 12 pin TRC wiring guide

8 pin TRC pin out	Wiring connection	12 pin TRC pin out
1 - System Power	← — →	1 - System Power
2 - System Ground (connect to pins 2 and 3 on 12 pin TRC)	← — →	2 - System Ground 3 - BND Ground
3 - Equipment run	← — →	4 - Equipment run
4 - Key switch	← — →	5 - Key switch
5 - Model specific (depending on model, this will connect to pin 6 or pin 10 of the 12 pin TRC)	← — →	6 - Boom \ Platform stowed status
6 - Model specific disable	← — →	7 - Model specific disable
		8 - No Connection
		9 - No Connection
(refer to pin 5)		10 - Foot switch / Function enable or GTH parking brake
7 - CAN HIGH	← — →	11 - CAN HIGH
8 - CAN LOW	← — →	12 - CAN LOW

TRC Function Pin Out

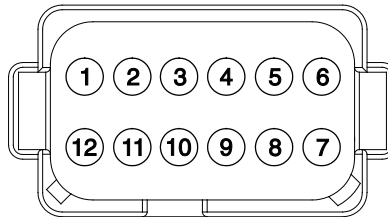
GR, GRC, QS, Slab Scissor and Z Boom Models

This Legend Only Applies to the Following Genie Models

GS-1330m	GS-1532	GS-2046	GS-2669	GR-12	QS-12	Z-33/18
GS-1530	GS-1932	GS-2646	GS-3369	GR-15	QS-15	Z-40/23
GS-1930	GS-2032	GS-2646 AV	GS-4069	GR-20	QS-20	Z-60/37
	GS-2632	GS-3246	(DC - Bi Energy)	GRC-12		
	GS-3232	GS-4047				

Note: GS, GR, GRC and QS models require the installation of the Telematics harness to be Telematics ready.

Genie part number 1289899GT.



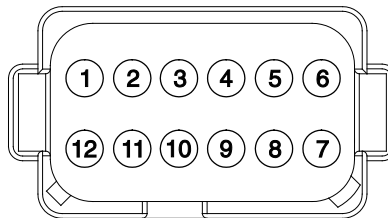
Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	24 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	24 VDC	DC Motor Controller Enable 24V = enabled, 0V = disabled	Monitor machine run hours
5	Digital Output 2	24 VDC	Key Switch Activation 24V = key switch on	Monitor machine utilization
6	No Connection	X	X	X
7	Digital Input 1	24 VDC (Z-60/37 Models)	Remote Machine Disable Active Low Relay	Remote disable motor controller
8	No Connection	X	X	X
9	No Connection	X	X	X
10	Digital Output 4	24 VDC (Z-60/37 Models)	Foot Switch Activation	Monitor machine utilization
11	Databus H	CAN HIGH	CAN/J1939	SAE J1939 Messages
12	Databus L	CAN HIGH	CAN/J1939	SAE J1939 Messages

TRC Function Pin Out

GS-69 RT, GS-84 RT and GS-90 RT Models

This Legend Only Applies to the Following Genie Models

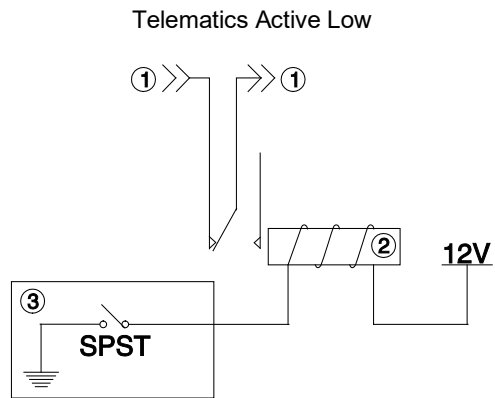
GS-2669 RT	GS-3384 RT	GS-3390 RT
GS-3369 RT		GS-4390 RT
GS-4069 RT		GS-5390 RT



Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	12 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	12 VDC	IC Engine Run 12V = engine run, 0V = engine off	Monitor engine run hours
5	Digital Output 2	12 VDC	Key Switch Activation 12V = key switch on	Monitor machine utilization
6	Digital Output 3	12 VDC	Platform Stowed Status 12V = stowed, 0V = out of stow	Monitor platform stowed and out of stowed status
7	Digital Input 1	12 VDC	Remote Machine Disable Active Low Relay	Remote disable engine start
8	No Connection	X	X	X
9	No Connection	X	X	X
10	No Connection	X	X	X
11	Databus H	CAN HIGH	CAN/J1939	SAE J1939 Messages
12	Databus L	CAN HIGH	CAN/J1939	SAE J1939 Messages

TRC Function Pin Out

Remote Disable Engine Start Relay Configuration



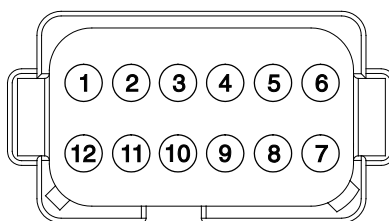
- 1 Ignition Start Input
- 2 Relay
- 3 Telematics with Active Low input

TRC Function Pin Out

Z-30N, Z-34 DC and Z-45 DC Models

This Legend Only Applies to the Following Genie Models

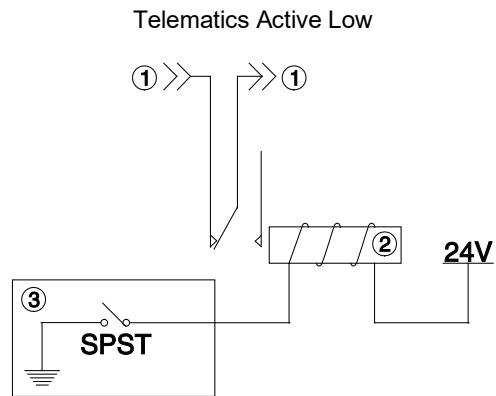
Z-30/20N	Z-45/25 DC
Z-30/20N RJ	Z-45/25J DC
Z-34/22 DC	



Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	24 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	24 VDC	DC Motor Controller Enable 24V = enabled, 0V = disabled	Monitor machine run hours
5	Digital Output 2	24 VDC	Key Switch Activation 24V = key switch on	Monitor machine utilization
6	Digital Output 3	24 VDC	Boom Stowed Status 24V = stowed, 0V = out of stow	Monitor platform stowed and out of stowed status
7	Digital Input 1	24 VDC	Remote Machine Disable Active Low Relay	Remote disable motor controller
8	No Connection	X	X	X
9	No Connection	X	X	X
10	Digital Output 4	24 VDC	Foot Switch Activation 24V = foot switch pressed	Monitor machine utilization
11	No Connection	X	X	X
12	No Connection	X	X	X

TRC Function Pin Out

Remote Disable Machine Relay Configuration



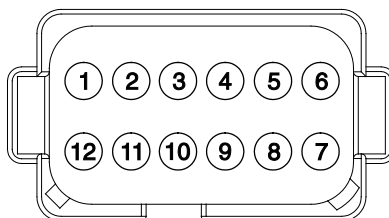
- 1 Foot switch Input
- 2 Relay
- 3 Telematics with Active Low input

TRC Function Pin Out

Z Booms, ALC-500 and Bi-Energy Models

This Legend Only Applies to the Following Genie Models

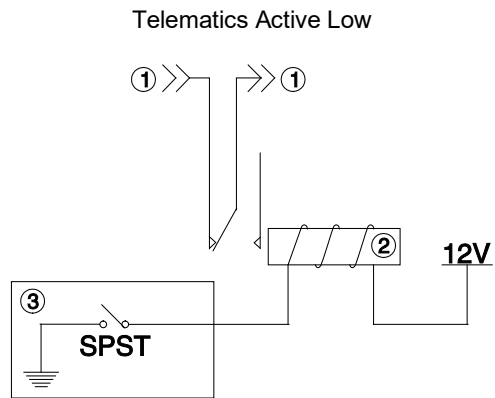
ALC-500	all other models
Z-45/25	Z-34/22 (Bi-Energy)
Z-45/25J	Z-34/22 (IC)
Z-45/25 XC	Z-45/25 (Bi-Energy)
Z-51/30	
Z-62/40	



Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	12, 24 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	12 VDC	IC Engine Run 12V = engine run, 0V = engine off	Monitor engine run hours
5	Digital Output 2	12, 24 VDC	Key Switch Activation 12/24V = key switch on	Monitor machine utilization
6	Digital Output 3	12, 24 VDC	Boom Stowed Status 12/24V = stowed, 0V = out of stow	Monitor platform stowed and out of stowed status
7	Digital Input 1	12, 24 VDC	Remote Machine Disable Active Low Relay	Remote disable engine start
8	No Connection	X	X	X
9	No Connection	X	X	X
10	Digital Output 4	12, 24 VDC	Foot Switch Activation 12/24V = foot switch pressed	Monitor machine utilization
11	Databus H	CAN HIGH	CAN/J1939	Receive Proprietary Genie Telematics Message
12	Databus L	CAN LOW	CAN/J1939	Receive Proprietary Genie Telematics Message

TRC Function Pin Out

Remote Disable Engine Start Relay Configuration



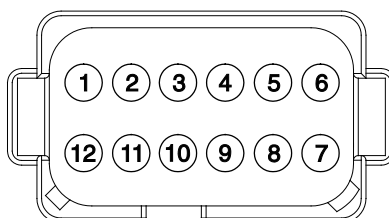
- 1 Ignition Start Input
- 2 Relay
- 3 Telematics with Active Low input

TRC Function Pin Out

S and Z Booms, ALC-600 Models

This Legend Only Applies to the Following Genie Models

S-40 XC	S-60 XC	S-80 XC
S-45 XC	S-65 XC	S-85 XC
		S-80 HF
		S-85 HF



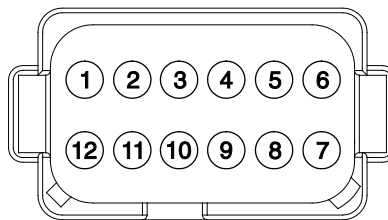
Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	12 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	12 VDC	IC Engine Run 12V = engine run, 0V = engine off	Monitor engine run hours
5	Digital Output 2	12 VDC	Key Switch Activation 12V = key switch on	Monitor machine utilization
6	No Connection	X	X	X
7	Digital Input 1	12 VDC	Remote Machine Disable Active Low Relay	Remote disable engine start
8	No Connection	X	X	X
9	No Connection	X	X	X
10	Digital Output 4		Foot Switch Activation 12V = foot switch pressed	Monitor machine utilization
11	Databus H	CAN HIGH	CAN/J1939	Receive Proprietary Genie Telematics Message
12	Databus L	CAN LOW	CAN/J1939	Receive Proprietary Genie Telematics Message

TRC Function Pin Out

S and Z Booms, ALC-1000 Models

This Legend Only Applies to the Following Genie Models

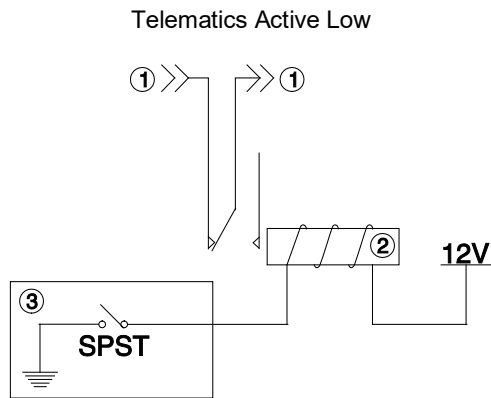
SX-105 XC	Z-80/60
SX-125 XC	ZX-135/70
SX-135 XC	
SX-150	
SX-180	



Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	12 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	12 VDC	IC Engine Run 12V = engine run, 0V = engine off	Monitor engine run hours
5	Digital Output 2	12 VDC	Key Switch Activation 12V = key switch on	Monitor machine utilization
6	No Connection	X	X	X
7	Digital Input 1	12 VDC	Remote Machine Disable Active Low Relay	Remote disable engine start
8	No Connection	X	X	X
9	No Connection	X	X	X
10	Digital Output 4	12 VDC	Foot Switch Activation 12V = foot switch pressed	Monitor machine utilization
11	Databus H	CAN HIGH	CAN/J1939	Receive Proprietary Genie Telematics Message
12	Databus L	CAN LOW	CAN/J1939	Receive Proprietary Genie Telematics Message

TRC Function Pin Out

Remote Disable Engine Start Relay Configuration



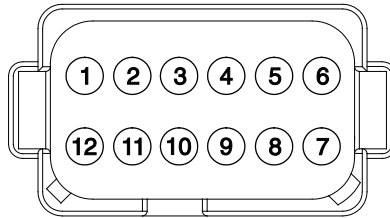
- 1 Ignition Start Input
- 2 Relay
- 3 Telematics with Active Low input

TRC Function Pin Out

GTH Models

This Legend Only Applies to the Following Genie Models

GTH-636	GTH-1256	GTH-3007
GTH-844	GTH-1544	GTH-5519
GTH-1056	GTH-2506	

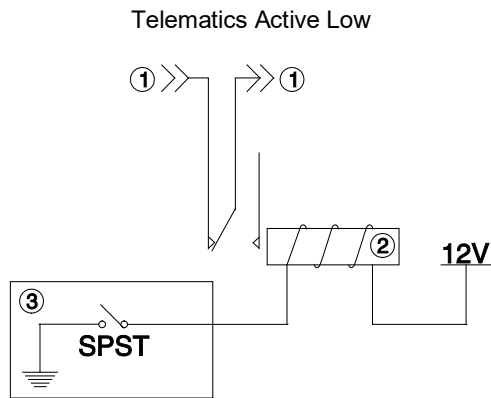


Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	12 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	12 VDC	IC Engine Run 12V = engine run, 0V = engine off	Monitor engine run hours
5	Digital Output 2	12 VDC	Key Switch Activation 12V = key switch on	Monitor machine utilization
6 *	Digital Output 3	12 VDC	Boom Angle Status 12V = boom >55°, 0V = < 55°	Monitor boom angle status
7	Digital Input 1	12 VDC	Remote Machine Disable Active Low Relay	Remote disable engine start
8	No Connection	X	X	X
9	No Connection	X	X	X
10	Digital Output 4	12 VDC	Parking Brake 12V = enabled, 0V = disabled	Monitor machine utilization
11	Databus H	CAN HIGH	CAN/J1939	Receive Proprietary Genie Telematics Message
12	Databus L	CAN LOW	CAN/J1939	Receive Proprietary Genie Telematics Message

* Not available on GTH-636

TRC Function Pin Out

Remote Disable Engine Start Relay Configuration



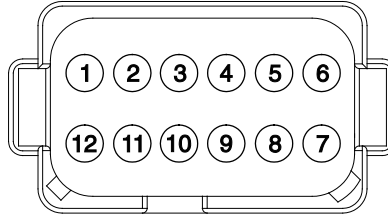
- 1 Ignition Start Input
- 2 Relay
- 3 Telematics with Active Low input

TRC Function Pin Out

Light Tower Models

This Legend Only Applies to the Following Genie Models

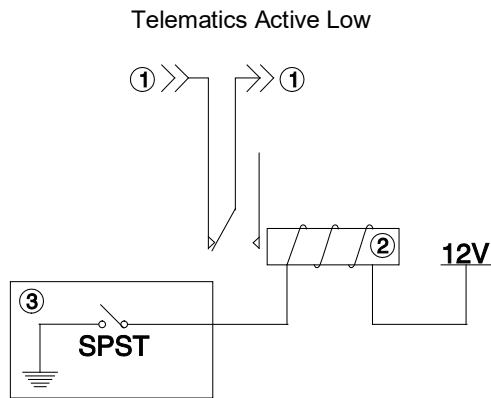
AL4	AL5	AL5HT	RL4	RL4 LED
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Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	12 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	12 VDC	IC Engine Run 12V = engine run, 0V = engine off	Monitor engine run hours
5	Digital Output 2	12 VDC	Key Switch Activation 12V = key switch on	Monitor machine utilization
6	No Connection	X	X	X
7	Digital Input 1	12 VDC	Remote Machine Disable Active Low Relay	Remote disable engine start
8	No Connection	X	X	X
9	No Connection	X	X	X
10	No Connection	X	X	X
11	No Connection	X	X	X
12	No Connection	X	X	X

TRC Function Pin Out

Remote Disable Engine Start Relay Configuration



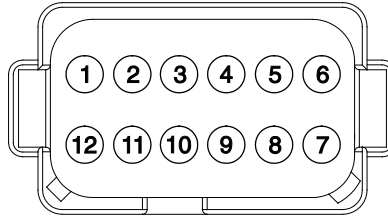
- 1 Ignition Start Input
- 2 Relay
- 3 Telematics with Active Low input

TRC Function Pin Out

TZ Models

This Legend Only Applies to the Following Genie Models

TZ-34/20 TZ-50



Pin	Circuit Type	Circuit Properties	Genie Machine Function(s)	Telematics Use Case
1	System Power	24 VDC	Battery Positive – constant power	Supply power to device 5 Amp Max. allowed draw
2	System Ground	0 VDC	Battery Negative	Device ground
3	BND Control	0 VDC	Chassis Ground	BND switch ground (customer installed option)
4	Digital Output 1	24 VDC	DC Motor Controller Enable 24V = enabled, 0V = disabled	Monitor machine run hours
5	Digital Output 2	24 VDC	Key Switch Activation 24V = key switch on	Monitor machine utilization
6	Digital Output 3	24 VDC	Boom Stowed Status 24V = stowed, 0V = out of stow	Monitor platform stowed and out of stowed status
7	Digital Input 1	24 VDC	Remote Machine Disable Active Low Relay	Remote disable motor controller
8	No Connection	X	X	X
9	No Connection	X	X	X
10	No Connection	X	X	X
11	No Connection	X	X	X
12	No Connection	X	X	X

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