

# **DIGI★STAR**

---

**P R E C I S E L Y**

D4000

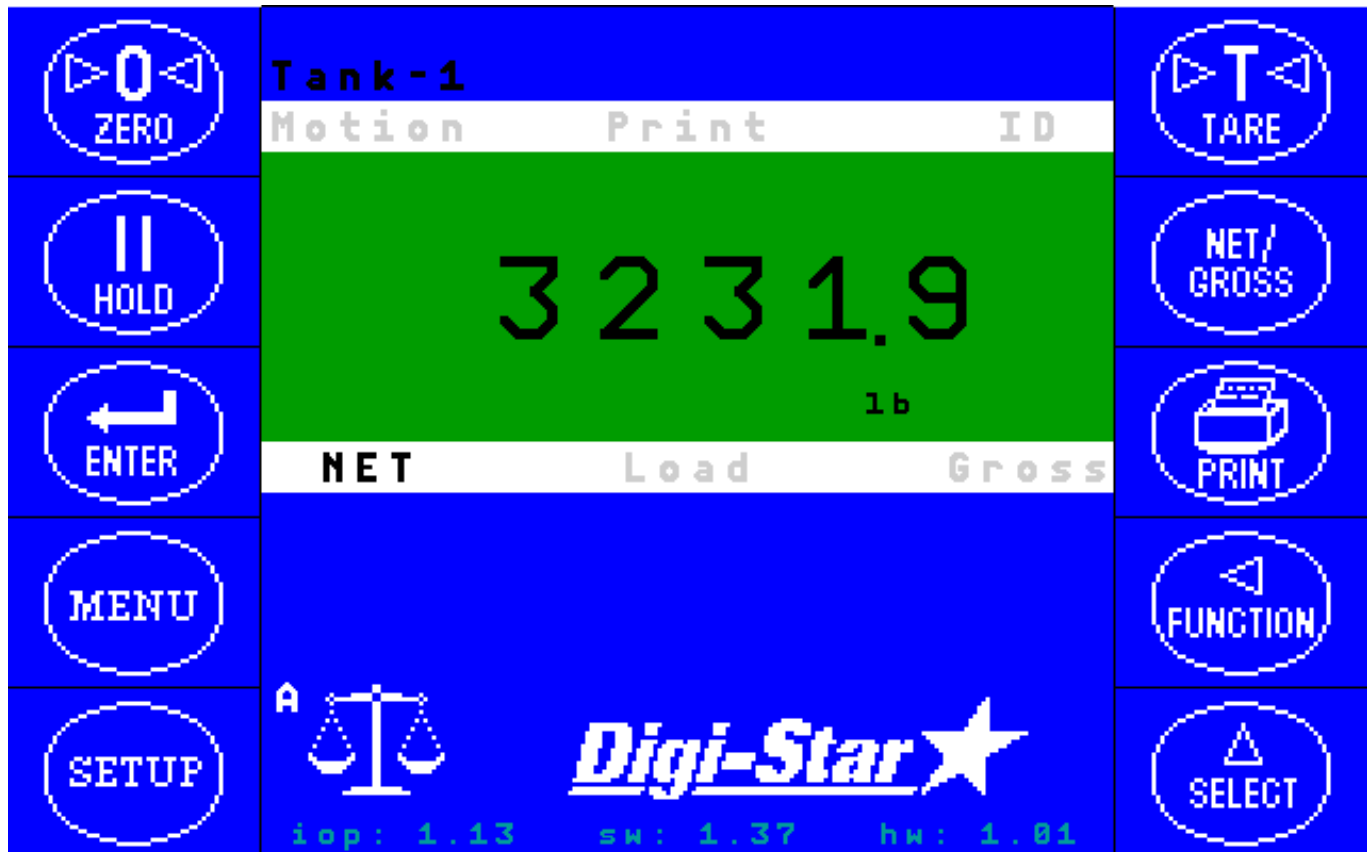
## Digi-Star ISOBUS / CAN Application Notes

Communication Interface for the  
SL1x0-ISO, SL2x0-ISO and SL3x0-ISO Products

Revision History			
Revison:	Date:	By:	Description:
Original	20 Aug 2010	cty	Original.
A	5 Oct 2010	JAB	Make into a generic document.
B	07 Oct 2010	cty	Updated screen shots.
C	07 Oct 2010	cty	Updated screen shots.
D	01 Dec 2010	JAB	Add CAN references.
E	04 Jan 2011	JAB	Add Virtual Terminal Screen.
F	12 Jan 2011	JAB	Clarify A, B, C Scale Identifier.
G	18 Jan 2011	JAB	Include Tare & other Commands.
H	04 Feb2011	RDB	Description corrections and clarify starting PS/DA Add commands
I	09 Feb 2011	RDB	Added documentation for A,B,C scale Gk weight request. Added additional content to clarify Message Formats.
J	07 Mar 2011	RDB	Added ABC scale select scale platform documentation. Clarified ACK/NAK messaging.
K	06 May 2011	RDB	Added Documentation for Disable/Enable Weight Broadcast GkD & GkE. fixed a couple document J errors.
L	5 Dec 2011	RDB	Added GY GZ and associated messages
M	7 Apr 2014	JPF	Added ISOBUS DDI support information; document # D4000

**The Virtual Terminal Display of the Digi-Star SL1x0/200-ISO Scale:**

For tractors equipped with ISOBUS, the Digi-Star SL1x0/2x0-ISO scale will display the weight on the virtual terminal in the cab. This screen also allows the operator to perform scale functions such as zero/balance, tare, and setup. The general appearance of the display is shown.



**Reading the Gross weight from a Digi-Star SL1X0/2X0-ISO Scale:**

The Digi-Star SL1X0/2X0-ISO scale turns on and then starts sending out the Gross weight in grams over the ISOBUS / CAN. The Gross weight message broadcast time is based on the MENU 2 ISO WT setting, which can be varied between 0.1 and 2 seconds in 0.1 second steps. The setting can be disabled by selecting OFF.

After your ECU has turned ON and has finished the ISOBUS address claim, it can then read the Gross weight being broadcast by the Digi-Star SL1X0/2X0-ISO. If there are no other devices with higher priority, the SL1X0/2X0-ISO will claim SA 0x90 (144 decimal). The default base address the SL will claim can be changed via the MENU 2 ISOADR setting.

The Gross weight is sent using the process data message format defined in ISO 11783-7 with PGN 0xCB00, global destination address 0xFF, and priority 3. The MENU 2 ISODDI setting controls which DDI values are used when sending the weight messages onto ISOBUS.

With ISODDI set to ON, the ISOBUS-defined DDI value is used as follows:

**ISODDI = ON**

PGN: CBFFh

ID: 0CCBFF90h Length: 8 Data 13h 00h 4Bh 00h C0h 91h 21h 00h

Byte	Value	Parameter Name	Description
1	0x13	Scale/Command	Upper nibble = Scale Identifier (1=Scale A, 2=Scale B, 3=Scale C) Lower nibble = Command ( 0x3)
2	0x00	Empty	
3	0xE8	Gross Weight	Code for "Gross" weight (DDI-232) (lsb)
4	0x00	"	" (msb)
5		Weight	Value in grams (lsb)
6		"	"
7		"	"
8		"	" (msb)

*Note that the weight is sent in reverse byte order ( little endian ).*

Example:

CAN-ID	LENGTH	DATA
0xCCBFF90	8	0x13 0x00 0xE8 0x00 0x81 0x9C 0x4A 0x00

Weight is 0x004A9C81 (4889729 decimal) grams or ~ 4889.7 kg = 10780 lbs.

Note: To convert the weight from grams to pounds, 1000 grams = 1kg = 2.2046 lbs.

With ISODDI set to OFF, the legacy value is used as follows:

**ISODDI = OFF**

PGN: CBFFh

ID: 0CCBFF90h Length: 8 Data 13h 00h 4Bh 00h C0h 91h 21h 00h

Byte	Value	Parameter Name	ASCII	Description
1	0x13	Scale/Command		Upper nibble = Scale Identifier (1=Scale A, 2=Scale B, 3=Scale C) Lower nibble = Command ( 0x3)
2	0x00	Empty		
3	0x4B	Weight Code	'K'	Code for "Gross" weight (DDI-75) (lsb)
4	0x00	"		" (msb)
5		Weight		Value in grams (lsb)
6		"		"
7		"		"
8		"		" (msb)

*Note that the weight is sent in reverse byte order ( little endian ).*

Example:

CAN-ID	LENGTH	DATA
0xCCBFF90	8	0x13 0x00 0x4B 0x00 0x81 0x9C 0x4A 0x00

Weight is 0x004A9C81 (4889729 decimal) grams or ~ 4889.7 kg = 10780 lbs.

Note: To convert the weight from grams to pounds, 1000 grams = 1kg = 2.2046 lbs.

**Sending commands to the Digi-Star SL1X0/2X0-ISO Scale:**

Commands can be sent to the scale using the Proprietary A message format defined in J1939. For this format, the PGN is 0xEF00 and priority is 6.

**To Zero / Balance the Scale:**

Prior to loading the system, “Zero/Balance” the scale by sending the following ISOBUS / CAN message to the Digi-Star SL1X0/2X0-ISO:

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU.

Data length: 8 bytes.

ID: 18EF90EEh Length: 8 Data: 41h FFh FFh FFh FFh 47h 42h C6h

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0xFF	Command Value		Command value
3	0xFF	“		“
4	0xFF	“		“
5	0xFF	“		“
6	0x47	Command	‘G’	Command (general command)
7	0x42	“	‘B’	SubCommand (Balance Indicator)
8	0xC6	Checksum		Checksum

Example:

CAN-ID	LENGTH	DATA
0x18EF90EE	8	0x43 0xFF 0xFF 0xFF 0xFF 0x47 0x42 0xC6

1. The scale will Zero/Balance the system to 0 lbs/kgs and enter the Gross weighing mode.
2. The Gross weight continues to be broadcast by the Digi-Star SL1X0/2X0-ISO.

Example:

CAN-ID	LENGTH	DATA (ISODDI=ON)
0xCCBFF90	8	0x13 0x00 0xE8 0x00 0x00 0x00 0x00 0x00

The weight is now 0.

**To Tare and send out the Net weight from the Digi-Star SL1X0/2X0-ISO Scale:**

The TARE/NET command:

CAN id: 0x18EFxyxy where xx is the CAN address of the scale and yy is the id of your ECU.

Data length: 8 bytes.

ID: 18EF90EEh Length: 8 Data: 41h FFh FFh FFh FFh 47h 54h D8h

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0xFF	Command Value		Command value
3	0xFF	“		“
4	0xFF	“		“
5	0xFF	“		“
6	0x47	Command	‘G’	Command (general command)
7	0x54	“	‘T’	SubCommand (Conduct tare and go to Net weight mode)
8	0xD8	Checksum		Checksum

Example: TARE Command

CAN-ID	LENGTH	DATA
0x18EF90EE	8	0x41 0xFF 0xFF 0xFF 0xFF 0x47 0x54 0xD8

1. The scale Tares the system to 0 lbs/kgs and enters the Net weighing mode.

2. Messages for both the Net and Gross weights are broadcast at this time.

*Please note: The Net weight message is disabled after the Zero/Balance command. To get a new Net weight message, you must send the Tare command again.*

An additional message provides the Net weight and will be broadcast by the scale after the Tare command has been sent to the scale, or TARE has been pressed on the scale interface (VT or SLC Display). The Net weight message broadcast time is based on the MENU 2 ISO WT setting, which can be varied between 0.1 and 2 seconds in 0.1 second steps.

Examples:

CAN-ID	LENGTH	DATA (ISODDI=ON)
0xCCBFF90	8	0x13 0x00 0xE5 0x00 0x00 0x00 0x00 0x00

CAN-ID	LENGTH	DATA (ISODDI=OFF)
0xCCBFF90	8	0x13 0x00 0x4E 0x45 0x00 0x00 0x00 0x00

As weight is added, after TARE is pressed, the NET weight will increase.

CAN-ID	LENGTH	DATA (ISODDI=ON)
0xCCBFF90	8	0x13 0x00 0xE5 0x00 0x10 0x5B 0x16 0x00

The Net weight shown is 0x00165B10 (1465104 decimal) grams or ~1465.1kg = 3230.0 lbs.

Negative values may also be shown when material is removed since the last TARE.

CAN-ID	LENGTH	DATA (ISODDI=ON)
0xCCBFF90	8	0x13 0x00 0xE5 0x00 0x5D 0x02 0xBF 0xFF

The Net weight shown is 0xFFBF025D. 2's compliment the number to 0x40FDA3 which is -4259235 grams or about -4259.2 kgs = -9390 lbs.

### **To Enter Gross mode:**

The scale can be commanded to enter Gross weight mode by sending the following message:

CAN id: 0x18EFxyyy where xx is the CAN address of the scale and yy is the id of your ECU. Data length: 8 bytes.

ID: 18EF90EEh Length: 8 Data: 41h FFh FFh FFh FFh 47h 47h CBh

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0xFF	Command Value		Command value
3	0xFF	“		“
4	0xFF	“		“
5	0xFF	“		“
6	0x47	Command	'G'	Command (general command)
7	0x47	“	'G'	SubCommand (Enter Gross Mode)
8	0xCB	Checksum		Checksum

Example:

CAN-ID	LENGTH	DATA
0x18EF90EE	8	0x41 0xFF 0xFF 0xFF 0xFF 0x47 0x47 0xCB



**To Enter NET mode:**

The scale can be commanded to enter NET weight mode by sending the following message:

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU. Data length: 8 bytes.

ID: 18EF91EEh Length: 8 Data: 41h FFh FFh FFh FFh 47h 4Eh D2h

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0xFF	Command Value		Command value
3	0xFF	“		“
4	0xFF	“		“
5	0xFF	“		“
6	0x47	Command	'G'	Command (general command)
7	0x4E		'N'	SubCommand (Enter Net Mode)
8	0xD2	Checksum		Checksum

Example:

CAN-ID	LENGTH	DATA
0x18EF90EE	8	0x41 0xFF 0xFF 0xFF 0xFF 0x47 0x4E 0xD2

**ACK/NAK response from the scale:**

The SL-ISO scale system will transmit an ACK/NAK message in response to command messages sent to the scale.

CAN id: 0x18E8yyxx where xx is the CAN address of the scale and yy is the id of your ECU. Data length: 8 bytes.

ID: 18E8EE91h Length: 8 Data: 00h 41h FFh FFh FFh 41h FFh 00h

Byte	Value	Parameter name	ASCII	Description
1	0x00	ACK/NAK		ACK = 00, NAK =01
2	0x41	Scale		Scale Id
3	0xFF			Reserved
4	0xFF			"
5	0xFF			"
6	0x41	Scale PGN		Scale PGN (lsb)
7	0xFF	"		Scale PGN
8	0x00	"		Scale PGN (msb)

The scale can be commanded to Enable or Disable ACK/NAK response to message commands:

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU. Data length: 8 bytes.

ID: 18EF91EEh Length: 8 Data: 41h 45h 00h 00h 00h 47h 6Fh 3Ch

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0x45	Command Value	'E'	Command value 'E'= Enable, 'D'= Disable
3	0x00	"		"
4	0x00	"		"
5	0x00	"		"
6	0x47	Command	'G'	Command (general command)
7	0x6F	"	'o'	Sub Command (Enable/Disable ack/nak)
8	0x3C	Checksum		Checksum

Example:

CAN-ID	LENGTH	DATA
0x18EF90EE	8	0x41 0x45 0x00 0x00 0x00 0x47 0x6F 0x3C

**To Load a Setup Value:**

The desired scale's setup number may be entered by sending the following message.

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU.  
Data length: 8 bytes.

ID: 18EF91EEh Length: 8 Data: 41h 78h 3Ah 02h 00h 47h 79h B5h

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0x78	Command Value		Command value (lsb)
3	0x3A	“		“
4	0x02	“		“
5	0x00	“		“ (msb)
6	0x47	Command	'G'	Command (general command)
7	0x79	“	'y'	SubCommand (enter a new short form setup value)
8	0xB5	Checksum		Checksum

Example: To Load Setup number 146040 (= 0x00023A78).

CAN-ID	LENGTH	DATA
0x18EF90EE	8	0x41 0x78 0x3A 0x02 0x00 0x47 0x79 0xB5

**To Load a Calibration Number:**

The desired scale's calibration number may be entered by sending the following message.

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU.  
Data length: 8 bytes.

ID: 18EF91EEh Length: 8 Data: 41h 80h 7Fh 00h 00h 47h 7Ah 01h

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0x80	Command Value		Command value (lsb)
3	0x7F	“		“
4	0x00	“		“
5	0x00	“		“ (msb)
6	0x47	Command	'G'	Command (general command)
7	0x7A	“	'z'	SubCommand (Load a new Calibration number value)
8	0x01	CheckSum		Checksum

Example: To load calibration number 32640 (= 0x00007F80).

CAN-ID	LENGTH	DATA
0x18EF90EE	8	0x41 0x80 0x7F 0x00 0x00 0x47 0x7A 0x01

**To request the calibration number stored in the SL1X0/2X0-ISO scale:**

The selected scale's calibration number may be requested by sending the following message.

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU.  
Data length: 8 bytes.

ID: 18EF91EEh Length: 8 Data: 41h FFh FFh FFh FFh 47h 5Ah DEh

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0xFF	Command Value		Command value (lsb)
3	0xFF	“		“
4	0xFF	“		“
5	0xFF	“		“ (msb)
6	0x47	Command	'G'	Command (general command)
7	0x5A	“	'Z'	SubCommand (request calibration number)
8	0xDE	Checksum		Checksum

Example: To request the calibration number stored in the scale.

CAN-ID	LENGTH	DATA
0x18EF9001	8	0x41 0xFF 0xFF 0xFF 0xFF 0x47 0x5A 0xDE

The SL1X0/2X0-ISO scale will transmit the calibration number using the process data message format defined in ISO 11783-7 with PGN 0xCB00, global destination address 0xFF, and priority 3:

PGN: CBFFh

ID: 0CCBFF90h Length: 8 Data 13h 00h 43h 00h 80h 7Fh 00h 00h

Byte	Value	Parameter Name	AS CII	Description
1	0x13	Scale/Command		Upper nibble = Scale Identifier (1=Scale A, 2=Scale B, 3=Scale C) Lower nibble = Command ( 0x3)
2	0x00	Empty		
3	0x43	Code	'C'	Code for Calibration Number (lsb)
4	0x00	“		“ (msb)
5	0x80	Calibration Number		Value (lsb)
6	0x7F	“		“
7	0x00	“		“
8	0x00	“		“ (msb)

*Note that the value is sent in reverse byte order ( little endian ).*

Example:

CAN-ID	LENGTH	DATA
0x0CCBFF90	8	0x13 0x00 0x43 0x00 0x80 0x7F 0x00 0x00

Value = 0x00007F80 = 32640

On the network, the message sequence will look like this:

(note: ISOADR = 144 (91h), SENDING ECU has address 01h in example below)

```
18EF9001h  41 FF FF FF FF 47 5A DE
0CCBFF90h  13 00 43 00 80 7F 00 00
18E80190h  00 41 FF FF FF 41 FF 00
```

```
Cmd.Request_Calibration_Number 41 FF FF FF FF 47 5A DE
Scale.Calibration_Number       13 00 43 00 80 7F 00 00
ACK_NAK                        00 41 FF FF FF 41 FF 00
```

**To request the setup number stored in the SL1X0/2X0-ISO scale:**

The selected scale's setup number may be requested by sending the following message.

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU.  
Data length: 8 bytes.

ID: 18EF91EEh Length: 8 Data: 41h FFh FFh FFh FFh 47h 59h DDh

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0xFF	Command Value		Command value (lsb)
3	0xFF	“		“
4	0xFF	“		“
5	0xFF	“		“ (msb)
6	0x47	Command	'G'	Command (general command)
7	0x59	“	'Y'	SubCommand (request setup number stored in scale)
8	0xDD	Checksum		Checksum

Example: To request the setup value stored in the scale.

CAN-ID	LENGTH	DATA
0x18EF9001	8	0x41 0xFF 0xFF 0xFF 0xFF 0x47 0x59 0xDD

The SL1X0/2X0-ISO scale will transmit the setup number using the process data message format defined in ISO 11783-7 with PGN 0xCB00, global destination address 0xFF, and priority 3:

PGN: CBFFh

ID: 0CCBFF90h Length: 8 Data 13h 00h 53h 00h 78h 3Ah 02h 00h

Byte	Value	Parameter Name	ASCII	Description
1	0x13	Scale/Command		Upper nibble = Scale Identifier (1=Scale A, 2=Scale B, 3=Scale C) Lower nibble = Command ( 0x3)
2	0x00	Empty		
3	0x53	Code	'S'	Code for Setup Value (lsb)
4	0x00	“		“ (msb)
5	0x78	Setup Number		Value (lsb)
6	0x3A	“		“
7	0x02	“		“
8	0x00	“		“ (msb)

*Note that the value is sent in reverse byte order ( little endian ).*

Example:

CAN-ID	LENGTH	DATA
0x0CCBFF90	8	0x13 0x00 0x53 0x00 0x78 0x3A 0x02 0x00

Value = 0x00023A78 = 146040

On the network, the message sequence will look like this:

(note: ISOADR = 144 (91h), SENDING ECU has address 01h in example below)

```
18EF9001h  41 FF FF FF FF 47 59 DD
0CCBFF90h  13 00 53 00 78 3A 02 00
18E80190h  00 41 FF FF FF 41 FF 00
```

```
Cmd.Request_Setup_Number      41 FF FF FF FF 47 59 DD
Scale.Setup_Number            13 00 53 00 78 3A 02 00
ACK_NAK                       00 41 FF FF FF 41 FF 00
```

**Multiple Scale Platform**

An ABC scale has multiple load cell inputs connected to three scale platforms- Scale A, Scale B, and Scale C.

**To select which scale's weight is displayed on the VT, and which scale the command messages are processed for:**

To select the scale that scale commands are processed for:

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU.

Data length: 8 bytes.

ID: 18EF91EEh Length: 8 Data: 41h 62h 00h 00h 00h 47h 41h 2Ch

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale id
2	0x62	Command Value	'b'	Command value ( 'a'=Scale A, 'b'= Scale B, 'c'=Scale C ) (lsb)
3	0x00	"		"
4	0x00	"		"
5	0x00	"		" (msb)
6	0x47	Command	'G'	Command (general command)
7	0x41	"	'A'	SubCommand (Select Scale Platform)
8	0x2B	Checksum		Checksum

Example: To Select Scale B.

CAN-ID	LENGTH	DATA
0x18EF9001	8	0x41 0x62 0x00 0x00 0x00 0x47 0x41 0x28

This will cause the VT to display the weight for scale B. Any command messages sent to the scale will be processed for scale B.

Example: To send the setup number and calibration number associated with scale B, the network message sequence would be:

(note: ISOADR = 144 (91h), SENDING ECU has address EEh in example below)

Command	ID	DATA
Select Scale B	18EF91EE	41 62 00 00 00 47 41 2B
ACK	18E8EE91	00 41 FF FF FF 41 FF 00
Load Scale B Setup	18EF91EE	41 78 3A 02 00 47 79 DD
ACK	18E8EE91	00 41 FF FF FF 41 FF 00
Load Scale B Calibration	18EF91EE	41 80 7F 00 00 47 7A 02
ACK	18E8EE91	00 41 FF FF FF 41 FF 00
Enter NET Mode Scale B	18EF91EE	41 FF FF FF FF 47 4E D2
ACK	18E8EE91	00 41 FF FF FF 41 FF 00

*Note: When a Select Scale command has been processed by the SL-ISO scale system, the VT will display weight for the selected scale platform, and all command messages sent to the SL-ISO system will apply to the selected scale platform.*



**To Request a Weight value from scale A, B, & C:**

To request weight from Scale A, B, & C.

PGN: 0xEF00.

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU.

Data length: 8 bytes.

ID: 18EF90EEh Length: 8 Data: 41h 00h 00h 00h 00h 47h 6Bh F3h

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale Identifier
2	0x00	Command Value		Command value ( All zero's to request all weights )
3	0x00	“		“
4	0x00	“		“
5	0x00	“		“
6	0x47	Command	'G'	Command (general command)
7	0x6B	“	'k'	SubCommand ( Request a weight value)
8	0xF3	Checksum		Checksum

Examples:

CAN-ID	LENGTH	DATA
0x18EF9001	8	0x41 0x00 0x00 0x00 0x00 0x47 0x6B 0xF3

On the network, the message sequence will look like this:

(note: ISOADR = 144 (91h), SENDING ECU has address EEh in example below)

```
18EF91EEh 41 00 00 00 00 47 6B F3
18E8EE91h 00 41 FF FF FF 41 FF 00
0CCBFF91h 13 00 4B 00 77 7E F9 FF
0CCBFF91h 23 00 4B 00 77 7E F9 FF
0CCBFF91h 33 00 4B 00 77 7E F9 FF
```

```
Cmd.Request_Scale_Weight 41 00 00 00 00 47 6B F3
ACK_NAK                 00 41 FF FF FF 41 FF 00
Scale_Weight             13 00 4B 00 77 7E F9 FF
Scale_Weight             23 00 4B 00 77 7E F9 FF
Scale_Weight             33 00 4B 00 77 7E F9 FF
```

*Note: If a Tare (GT) or NET (GN) command has been sent to the scale, the scale weight messages will also include the NET weight.*

**To Request a Weight value from scale A, or B, or C:**

To request weight from Scale A, B, or C.

PGN: 0xEF00.

CAN id: 0x18EFxyyy where xx is the CAN address of the scale and yy is the id of your ECU.

Data length: 8 bytes.

ID: 18EF91EEh Length: 8 Data: 41h 61h 00h 00h 00h 47h 6Bh 54h

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale Identifier
2	0x61	Command Value	'a'	Command value ( 'a'=Scale A, 'b'= Scale B, 'c'=Scale C )
3	0x00	"		"
4	0x00	"		"
5	0x00	"		"
6	0x47	Command	'G'	Command (general command)
7	0x6B	"	'k'	SubCommand ( Request a weight value)
8	0x54	Checksum		Checksum

Example:

CAN-ID	LENGTH	DATA
0x18EF9001	8	0x41 0x62 0x00 0x00 0x00 0x47 0x6B 0x55

On the network, the message sequence will look like this:

(note: ISOADR = 144 (91h), SENDING ECU has address EEh in example below)

```
18EF91EEh  41 62 00 00 00 47 6B 55
18E8EE91h  00 41 FF FF FF 41 FF 00
0CCBFF91h  23 00 4B 00 77 7E F9 FF
```

```
Cmd.Request_Scale_B_Weight 41 62 00 00 00 47 6B 55
ACK_NAK                    00 41 FF FF FF 41 FF 00
Scale_Weight.Gross         23 00 4B 00 77 7E F9 FF
```

If a Tare (GT) or NET (GN) command has been sent to the scale, the scale weight messages will also include the NET weight.

Example message sequence:

(note: ISOADR = 144 (91h), SENDING ECU has address EEh in example below)

```
18EF91EEh  41 00 00 00 00 47 6B F3
18E8EE91h  00 41 FF FF FF 41 FF 00
0CCBFF91h  13 00 4B 00 77 7E F9 FF
0CCBFF91h  13 00 4E 45 00 00 00 00
0CCBFF91h  23 00 4B 00 77 7E F9 FF
0CCBFF91h  23 00 4E 45 00 00 00 00
0CCBFF91h  33 00 4B 00 77 7E F9 FF
0CCBFF91h  33 00 4E 45 00 00 00 00
```

```
Cmd.Request_Scale_Weight  41 00 00 00 00 47 6B F3
ACK_NAK                   00 41 FF FF FF 41 FF 00
Scale_Weight.Gross        13 00 4B 00 77 7E F9 FF
Scale_Weight.NET          13 00 4E 45 00 00 00 00
Scale_Weight.Gross        23 00 4B 00 77 7E F9 FF
Scale_Weight.NET          23 00 4E 45 00 00 00 00
Scale_Weight.Gross        33 00 4B 00 77 7E F9 FF
Scale_Weight.NET          33 00 4E 45 00 00 00 00
```

*Please note: The Net weight message is disabled after the Zero/Balance command. To get a new Net weight message, you must send the Tare command again.*

**To Disable/Enable weight broadcast from scale A, B, and C:**

To Disable continuous weight broadcast from Scale A, B, and C.

PGN: 0xEF00.

CAN id: 0x18EFxxyy where xx is the CAN address of the scale and yy is the id of your ECU.

Data length: 8 bytes.

ID: 18EF9001h Length: 8 Data: 41h 44h 00h 00h 00h 47h 6Bh 37h

Byte	Value	Parameter name	ASCII	Description
1	0x41	Scale		Scale Identifier
2	0x44	Command Value	'D'	Command value ( 'D'=Disable continuous weight broadcast, 'E'= Enable broadcast at 1 second broadcast interval )
3	0x00	“		“
4	0x00	“		“
5	0x00	“		“
6	0x47	Command	'G'	Command (general command)
7	0x6B	“	'k'	SubCommand
8	0x37	Checksum		Checksum

Example:

CAN-ID	LENGTH	DATA
0x18EF9001	8	0x41 0x44 0x00 0x00 0x00 0x47 0x6B 0x55

On the network, the message sequence will look like this:

(note: ISOADR = 144 (91h), SENDING ECU has address 01h, and ISODDI=OFF in example below)

Disable Weight Broadcast:

```
Scale_Weight.Gross      8    13 00 4B 00 00 00 00
Scale_Weight.Gross      8    23 00 4B 00 00 00 00
Scale_Weight.Gross      8    33 00 4B 00 B7 11 00
18EF9001h                8    41 44 00 00 00 47 6B
18E80190h                8    00 41 FF FF FF 41 FF
```

Enable Weight Broadcast:

```
18EF9001h                8    41 45 00 00 00 47 6B
18E80190h                8    00 41 FF FF FF 41 FF
Scale_Weight.Gross      8    13 00 4B 00 49 EE FF FF
Scale_Weight.Gross      8    23 00 4B 00 00 00 00
Scale_Weight.Gross      8    33 00 4B 00 B7 11 00
```