

RS-232C Communication Command table for FGP series

Ver1.00

NIDEC DRIVE TECHNOLOGY CORPORATION

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NIDEC-SHIMPO CORPORATION

This material is the table of RS-232C communication between Digital Force gauge: FGP series and Host (PC etc.).
Regarding the connection / communication setting, please read through the instruction manual of force gauge.

"_" means space, "c r" means carriage return. ":" of Return command means that there is similar data continuously.

Transmitting command from host computer to FGP	Content	Returning command from FGP	Explanation
A A c r	Tare	A A c r	(Echo back)
A B c r	Cancel of data transmission	A B c r	(Echo back)
A C c r	Switch to plus peak hold mode	A C c r	(Echo back)
A D c r	Switch to standard measuring mode	A D c r	(Echo back)
A L c r	Switch to minus peak hold mode	A L c r	(Echo back)
A E c r	Clear the plus/minus peak value to zero	A E c r	(Echo back)
A F c r	Switch the unit to k g	A F c r	(Echo back)
A G c r	Switch the unit to N	A G c r	(Echo back)
A H c r	Switch the unit to lb	A H c r	(Echo back)
A K c r	Switch the unit to oz	A K c r	(Echo back)
B A c r	Transmission request of one measuring data (measuring value at present)	B A c r N A □ □ □ □ □ □ c r	□ □ □ □ □ □ : 6-digit value including sign, decimal point and 4-digit number
B B c r	Request for continuous transmission of measuring data (10 times/second)	B B c r N A □ □ □ □ □ □ c r	
B B 1 c r	Request for continuous transmission of measuring data (20 times/second)	B B 1 c r N A □ □ □ □ □ □ c r	
B B 2 c r	Request for continuous transmission of measuring data (50 times/second)	B B 2 c r N A □ □ □ □ □ □ c r	
B B 3 c r	Request for continuous transmission of measuring data (100 times/second)	B B 3 c r N A □ □ □ □ □ □ c r	
B C c r	Transmission request of model	B C c r N E □ □ c r	□ □ : 2-digit number indicating model 0 2 : FGP-0, 2, 0 3 : FGP-0, 5, 0 4 : FGP-1 0 5 : FGP-2, 0 6 : FGP-5, 0 7 : FGP-10 0 8 : FGP-20, 0 9 : FGP-50, 1 A : FGP-100
B D c r	Transmission request of unit	B D c r N H □ c r	□ : one-digit number indicating unit 0 : N, 1 : k g, 2 : g, 3 : l b, 4 : o z
B E c r	Transmission request of plus peak value	B E c r N B □ □ □ □ □ □ c r	□ □ □ □ □ □ : 6-digit value including sign, decimal point and 4-digit number
B F c r	Transmission request of minus peak value	B F c r N C □ □ □ □ □ □ c r	
E A c r	Request for single memory mode	E A c r	(Echo back)
E B c r	Request for continuous memory mode	E B c r	(Echo back)
E C c r	Request for standard memory mode	E C c r	(Echo back)
E D c r	Readout of memory mode	N D □ c r	□ : one-digit number indicating memory mode 0 : single memory 1 : continuous memory 2 : standard memory
E E c r	Memory recording · Memory starting / finishing ①When single memory mode is set, one current measuring data is recorded. ②When continuous memory mode, memory will be started by transmitting command and finished by retransmitting	N F □ □ □ □ c r N G S □ □ □ □ c r N G E □ □ □ □ c r	Reply when single memory mode is set □ □ □ □ : 4-digit number indicating memory number ※ 2 "0 1 0 1" is displayed when memory is full (100 data) Reply when starting memory for continuous memory mode □ □ □ □ : 4-digit number indicating memory starting number ※ 2 When the memory is already full (1000 data) at starting, "1 0 0 1" is displayed. Reply when finishing memory for continuous memory mode □ □ □ □ : 4-digit number indicating memory finishing number ※ 2 In the event that memory is full (1000 cases) at starting memory, enter "1 0 0 1" and reply it when finishing memory. (When memory is full before sending memory finishing command "EEcr" from host computer, input "1000" and reply when receiving memory finishing command.)
E F c r	Request for memory data	N I L O G _ □ _ _ _ _ c r Subsequently, any data of the following ①~③ will be sent in ①For continuous memory mode N I U N I T S _ □ _ _ _ _ c r N I D A T A _ _ _ _ □ □ □ □ c r N I P M A X _ + _ □ □ □ □ □ c r N I M M A X _ - _ □ □ □ □ □ c r N I P M I N _ + _ □ □ □ □ □ c r N I M M I N _ - _ □ □ □ □ □ c r N I P K C _ + _ □ □ □ □ □ c r N I P K T _ - _ □ □ □ □ □ c r N I A V E _ Δ _ □ □ □ □ □ c r N I D E V _ _ _ □ □ □ □ □ c r N I H L M T _ Δ _ □ □ □ □ □ c r N I L L M T _ Δ _ □ □ □ □ □ c r N I _ _ _ _ _ c r N I _ D A T A _ _ _ _ _ c r N I □ □ □ □ * Δ _ O O O O c r : (Send the line of "N I □ □ □ □ · c r" from memory number "0 0 0 1" to last memory. Max 1000 data) : : : N I E N D _ _ _ _ _ c r	□ : 1-digit number indicating memory mode 0 : single memory 1 : continuous memory 2 : standard memory □ : 1-digit number indicating unit 0 : N, 1 : k g, 2 : g □ □ □ □ : 4-digit number indicating total memory number ※ 2 □ □ □ □ : 5-digit number indicating plus max value (including decimal points) ※ 3 □ □ □ □ : 5-digit number indicating minus max value (including decimal points) ※ 3 □ □ □ □ : 5-digit number indicating plus min value (including decimal points) ※ 3 □ □ □ □ : 5-digit number indicating minus min value (including decimal points) ※ 3 □ □ □ □ : 5-digit number indicating plus peak value (including decimal point) ※ 3 □ □ □ □ : 5-digit number indicating minus peak value (including decimal point) ※ 3 □ □ □ □ : 5-digit number indicating average value (including decimal point) ※ 3 Δ : sign ("+" or "-") □ □ □ □ □ : 6-digit number indicating standard deviation (including decimal point) ※ 3 □ □ □ □ □ : 5-digit number indicating HI limit value of comparator ※ 2 Δ : sign ("+" or "-") □ □ □ □ □ : 5-digit number indicating LO limit value of comparator ※ 2 Δ : sign ("+" or "-") (Letter string meaning line feed) (Letter string meaning to transmit the measuring data afterward) □ □ □ □ : 4-digit number indicating memory number ※ 2 * : One character indicating judging result of comparator H : LO limit value ≤ measuring data > HI limit value L : LO limit value > measuring data ≤ HI limit value O : LO limit value ≤ measuring data ≤ HI limit value B : LO limit value > measuring data > HI limit value _ : comparator o f f (LO limit value = HI limit value = 0) Δ : sign ("+" or "-") O O O O O : 5-digit number indicating measuring data (including decimal point) ※ 3 (Letter string meaning to finish memory data transmission)

※ 1 4-digit number including symbol and decimal point. Example : "+ 0 2 . 1 0"
 ※ 2 4-digit number. Example : "0 0 2 1"
 ※ 3 4-digit number including decimal point. Example : "0 2 . 1 0"
 ※ 4 5-digit number including decimal point. Example : "0 0 . 1 5 0"
 (※From 1 ~4, the position of decimal point is different from the model and the unit.)

"_" means space, "c r" means carriage return. ":" of Return command means that there is similar data continuously.

Transmitting command from host to this equipment	Content	Returning command from FGP	Explanation
E F c r	Request for memory data (in sequence)	<p>②For single memory mode</p> <p>N I U N I T S _ □ _____ c r □: 1-digit number indicating unit 0 : N、1 : k g、2 : g</p> <p>N I D A T A _____ □ □ □ □ c r □ □ □ □ : 4-digit number indicating total memory number ※ 2</p> <p>N I P M A X _ + _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating plus max value (including decimal point) ※ 3</p> <p>N I M M A X _ - _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating minus max value (including decimal point) ※ 3</p> <p>N I P M I N _ + _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating plus min value (including decimal point) ※ 3</p> <p>N I M M I N _ - _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating minus min value (including decimal point) ※ 3</p> <p>N I A V E _ Δ _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating average value (including decimal point) ※ 3 Δ : sign ("+" or "-")</p> <p>N I D E V _ □ □ □ □ □ □ c r □ □ □ □ □ □ : 6-digit number indicating standard deviation (including decimal point) ※ 4</p> <p>N I H L M T _ Δ _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating comparator HI limit value ※ 2 Δ : sign ("+" or "-")</p> <p>N I L L M T _ Δ _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating comparator LO limit value ※ 2 Δ : sign ("+" or "-")</p> <p>N I _____ c r (Letter string meaning line feed)</p> <p>N I _ D A T A _____ c r (Letter string meaning to transmit the measuring data afterward)</p> <p>N I □ □ □ □ * Δ _ □ □ □ □ □ c r □ □ □ □ □ : 4-digit number indicating memory number ※ 2 * : One character indicating judging result of comparator H : LO limit value ≤ measuring data > HI limit value L : LO limit value > measuring data ≤ HI limit value O : LO limit value ≤ measuring data ≤ HI limit value B : LO limit value > measuring data > HI limit value _ : comparator o f f (LO limit value = HI limit value = 0) Δ : sign ("+" or "-")</p> <p>□ □ □ □ □ : 5-digit number indicating measuring data (including decimal point) ※ 3 (Letter string meaning to finish memory data transmission)</p> <p>③Standard memory mode</p> <p>N I U N I T S _ □ _____ c r □: 1-digit number indicating unit 0 : N、1 : k g、2 : g</p> <p>N I H L M T _ Δ _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating comparator HI limit value ※ 2 Δ : sign ("+" or "-")</p> <p>N I L L M T _ Δ _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating comparator LO limit value ※ 2 Δ : sign ("+" or "-")</p> <p>N I D A T A _____ □ □ □ □ c r □ □ □ □ : 4-digit number indicating total memory number ※ 2</p> <p>N I _____ c r (Letter string meaning line feed)</p> <p>N I N o . □ □ □ □ c r □ □ □ □ : 4-digit number indicating memory number ※ 2</p> <p>N I P M A X _ + _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating plus max value (including decimal point) ※ 3</p> <p>N I M M A X _ - _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating minus max value (including decimal point) ※ 3</p> <p>N I P M I N _ + _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating plus min value (including decimal point) ※ 3</p> <p>N I M M I N _ - _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating minus min value (including decimal point) ※ 3</p> <p>N I P K C _ + _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating plus peak value (including decimal point) ※ 3</p> <p>N I P K T _ - _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit number indicating minus peak value (including decimal point) ※ 3</p> <p>N I L A S T _ + _ □ □ □ □ □ c r □ □ □ □ □ : 5-digit indicating final measuring data (including decimal point) ※ 3</p> <p>□ □ □ □ □ : 5-digit indicating final measuring data (including decimal point) ※ 3</p> <p>(From the line of "N I N o . . . c r" to "N I L A . . . c r", send the memory from number "0 0 0 1" to last memory. Max is 50 data.)</p> <p>N I E N D _____ c r (Letter string meaning to finish memory data transmission)</p>	
E H c r	Clear the last memory data	N J O K c r N J N G c r	Completion of erasing the last data of the setting memory mode. In case there is no data at the setting memory mode
E I c r	Clear all memory data	E I c r	(Echo back)
E J c r	Readout the total memory number	Send the following data continuously. N M L O G □ c r N M □ □ □ □ c r	□ : 1-digit number indicating memory mode 0 : single memory 1 : continuous memory 2 : standard memory □ □ □ □ : 4-digit number indicating total memory number ※ 2
E K □ □ □ □ □ Δ Δ Δ Δ Δ c r	Setting of HI limit value and LO limit value of comparator □ □ □ □ □ : Comparator HI limit setting value (5-digit number including sign) ※ 5 Δ Δ Δ Δ Δ : Comparator LO limit setting value (5-digit number including sign) ※ 5 Setting value is only indicated value not including the unit and the decimal point. Please input the value correspond to digit number of measuring value which is displayed in LCD. [Example] Model : Under F G P - 5 (Display range ± 5 0 . 0 0 N、Resolution 0 . 0 1 N), when you set HI limit value "+ 5 . 0 0 N", and LO limit value "- 2 0 . 0 0 N", send "E K + 0 5 0 0 - 2 0 0 0 c r".	E K □ □ □ □ □ Δ Δ Δ Δ Δ c r	(Echo back)
E L c r	Readout the comparator HI limit setting value and LO limit setting value.	N O □ □ □ □ □ Δ Δ Δ Δ Δ c r	□ □ □ □ □ : Comparator HI limit setting value (5-digit number including sign) ※ 5 Δ Δ Δ Δ Δ : Comparator LO limit setting value. (5-digit number including sign) ※ 5

※ 2 Enter the 4-digit number. Ex, "0 0 2 1"
 ※ 3 Enter the 4-digit number including decimal point. Ex, "0 2 . 1 0"
 ※ 4 Enter the 5-digit number including decimal. Ex, " 0 0 . 1 5 0" Enter the 4-digit number including decimal point. Ex, "+ 2 0 0 0", "- 0 2 0 0"
 ※ 5 Enter the 4-digit number including sign. Ex, "+ 2 0 0 0", "- 0 2 0 0"
 (※At the value of in 2, 3, 4, 5, position of decimal point is different depend on the model and unit.)

