Autonics

• Observe all 'Safety Considerations' for safe and proper operation to avoid hazards.

- Δ symbol indicates caution due to special circumstances in which hazards may occur.
- Marning Failure to follow instructions may result in serious injury or death

Safety Considerations

- 01. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.(e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.) Failure to follow this instruction may result in personal injury, economic loss or fire.
- 02. Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.
- Failure to follow this instruction may result in explosion or fire. **03. Install on a device panel to use.**
- Failure to follow this instruction may result in fire or electric shock.04. Do not connect, repair, or inspect the unit while connected to a power source.
- Failure to follow this instruction may result in fire or electric shock. **05. Check 'Connections' before wiring.**
- Failure to follow this instruction may result in fire. **06. Do not disassemble or modify the unit.**

Failure to follow this instruction may result in fire or electric shock.

- **Caution** Failure to follow instructions may result in injury or product damage
- 01. Use the unit within the rated specifications.
- Failure to follow this instruction may result in fire or product damage02. Use a dry cloth to clean the unit, and do not use water or organic solvent.Failure to follow this instruction may result in fire or electric shock.
- Keep the product away from metal chip, dust, and wire residue which flow into the unit.
- Failure to follow this instruction may result in fire or product damage. **04. Check the polarity of the measurement input before wiring.**
 - Failure to follow this instruction may result in explosion or fire.

Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- For connecting the power, use the crimp terminal (M3.5, max. 7.2 mm).
- 24 VDC= power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
- Keep away from high voltage lines or power lines to prevent inductive noise. Do not use near the equipment which generates strong magnetic force or high frequency noise.
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- Use twisted pair wire for communication line.
- This unit may be used in the following environments.
- Indoors (in the environment condition rated in 'Specifications')
 Altitude Max. 2,000 m
- Pollution degree 2
- Installation category II

Bar Graphic Temperature Indicators



KN-1000B Series PRODUCT MANUAL

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc are subject to change without notice for product improvement Some models may be discontinued without notice.

Features

- High accuracy with 16 bit ADC (\pm 0.2% F.S.)
- Multi-input
- Thermometer 12 types
- RTD 5 types
- Analog: current 2 types/voltage 4 types
- 101 LED bar graph (green)
- Various output options
- Alarm output: 2 points/4 points
- 4-20mA transmission output (isolated), RS485 Communication output
- Various functions
- Bar graph alarm display
- High/Low peak input monitoring
- Alarm output (upper/lower, sensor break)
- Transmission output/display scale
- Digital input (DI), etc.
- Built-in power supply for sensor/transmitter (24 VDC==)
- Small size (rear length: 70 mm)

Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website .

K N -	1	0	0	8	В	
O Alarm output 0: No mark 2: 2 alarm 4: 4 alarm	0: N 1: F 4: C	Option o No mark PV Transm Communio	u tput ission cation	3 F 0: 10 1: 24	2 ower supply 00-240 VAC~ 50/60 Hz 4 VDC 	,

Product Components

• Product

• Instruction manual

• Bracket ×2 • Connector (KN-10 B: ×3, KN-12 B: ×4, • Unit sticker ×1

KN-140 \square B: ×4, KN-141 \square B: ×5, KN-144 \square B: ×5)

Software

Download the installation file and the manuals from the Autonics website.

DAQMaster

DAQMaster is comprehensive device management program. It is available for parameter setting, monitoring.

Specifications

Series		KN-1000B Series					
Jenes		AC voltage	DC voltage				
Power supply		100 - 240 VAC~ 50/60 Hz	24 VDC===				
Allowable	voltage range	90 to 110% of rated voltage					
Power cor	nsumption	\leq 6 VA	\leq 4 W				
Sampling	period	• Thermocouple, RTD: 250 ms	Analog: 100 ms				
Input spec	cification	Refer to 'Input Type and Using R	ange'.				
	Contact	$\bullet\text{ON:} \le 2\text{k}\Omega \ \bullet\text{OFF:} \ge 90\text{k}\Omega$					
Digital	Non contact	 Residual voltage: ≤ 1.0 V 	kage current: ≤ 0.03 mA				
mpac	Outflow current	\approx 0.2 mA					
	Alarm	• 2 point relay: 250 VAC ~ 3 A 1c	• 4 point relay: 250 VAC ~ 1 A 1a				
Option	PV transmission	ISOLATED DC 4-20 mA (Load resistance: $\leq 600 \Omega$)					
RS485 comm.		Modbus RTU					
Display type		7 Segment (red), Graph bar (green)					
Alarm output Hysteresis		1 to 999 digit					
Relay life	Mechanical	 2 point: ≥ 10,000,000 operations 4 point: ≥ 20,000,000 operations 					
cycle	Electrical	• 2 point: \geq 100,000 operations (load resistance: 250 VAC~ 3 A) • 4 point: \geq 500,000 operations (load resistance: 250 VAC~ 1 A)					
Dielectric	strength	Between input terminal and power terminal: 2,000 VAC \sim 50/60 Hz for 1 min					
Vibration		0.75 mm amplitude at frequency of 5 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours					
Insulation	resistance	\geq 100 M Ω (500 VDC== megger)					
Noise imn	nunity	± 2 kV square shaped noise (pulse width 1 µs) by noise simulator					
Memory retention		\approx 10 years (non-volatile semiconductor memory type)					
Ambient temperature		-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)					
Ambient humidity		35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation)					
Approval		C€ERE					
Unit weig	ht (packaged)	$\approx 182 \mathrm{g} (\approx 304 \mathrm{g})$					

Communication Interface

RS485

Comm. protocol	Modbus 1.1 RTU
Maximum connection	32 units
Synchronous method	Asynchronous
Comm. method	Two-wire half duplex
Comm. effective range	\leq 1,200 m (\leq 700 m recommended)
Comm. speed	9,600 (default) / 4,800 / 2,400 / 1,200 bps (parameter)
Data bit	8 bit (fixed)
Parity bit	None (fixed)
Stop bit	1 bit (fixed)

Input Type and Using Range

Input typ	e		Display	Using range (°C)	Using range (°F)	
	K (CA)		EC.EI	200 to 1350	-328 to 2,462	
	K (CA)		F C.F.S	-199.9 to 999.9	-328 to 1,832	
	J (IC)		FC-J	-199.9 to 800.0	-328 to 1,472	
	E (CR)		FC-E	-199.9 to 800.0	-328 to 1,472	
	T (CC)		£[-Ε	-199.9 to 400.0	-199.9 to 752.0	
T he sum a	B (PR)*		ЕС-Б	100 to 1,800	212 to 3,272	
r nermo-	R (PR)		EC-r	0 to 1,750	32 to 3,182	
coupie	S (PR)*		£C-5	0 to 1,750	32 to 3,182	
	N (NN)*		EC-n	-200 to 1,300	-328 to 2,372	
	C (W5)*		EC-C	0 to 2,300	32 to 4,172	
	L (IC)*		EC-L	-199.9 to 900.0	-328 to 1,652	
	U (CC)*		EC-U	-199.9 to 400.0	-199.9 to 752.0	
	Platinel I	*	EC-P	0 to 1,390	32 to 2,534	
	Cu50Ω*		C U.S D	-199.9 to 200.0	-199.9 to 392.0	
	Cu100Ω	*	C U. 1 D	-199.9 to 200.0	-199.9 to 392.0	
RTD	JPt100Ω		JPE.I	-199.9 to 600.0	-328 to 1,112	
	DPt50Ω		dPE.S	-199.9 to 600.0	-328 to 1,112	
	DPt100C	2	dPE.1	-199.9 to 850.0	-328 to 1,530	
	Current	0.00 - 20.00 mA	8.5 A I			
	Current	4.00 - 20.00 mA	8.5 A 2	-1,999 to 9,999		
Analog		-50.0 - 50.0 mV	R.nu I			
	Voltago	-199.9 - 200.0 mV	R.ñu 2	decimal point posi	tion.)	
	Voltage	-1.000 - 1.000 V	8-u l		1	
		-1.00 - 10.00 V	8-u2			

Above input types which have the * mark are displayed only in Input specification expansion. Refer to 'Mode Setting' to check how to enter the mode.

Display accuracy

Input type	Using temperature	Display accuracy				
Thermocouple	At room temperature (25 °C ±5 °C)	PV ±0.2% F.S. ±1 digit • Thermocouple below -100 °C: (PV ±0.4% F.S.) ±1digit				
Analog	Out of room temperature range	PV ±0.3% F.S. ±1 digit				
. In case of TC T TC 11 + 2.0°C will be added to the degree standard						

Unit Descriptions



• The setting of input type selection switch and the setting value of input type parameter should be same and it can display the proper measurement value.

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.
- Below is based on KN-1000B series.



Connections





33 0







9

Errors

Display	Description	Troubleshooting
bUrn	Flashes when input sensor is disconnected or sensor is not connected.	Check input sensor status.
нннн	Flashes when PV is higher than input range.	When input is within the rated input
LLLL	Flashes when PV is lower than input range.	range, this display disappears.
Err	Flashes when there is an error of setting value	Check the setting condition and reset.

Mode Setting

\bigcap	[MODE]	→	Monitoring mode setting	[MODE] over 3 sec	÷	\bigcap
RUN	[MODE] over 3 sec	\rightarrow	Program mode setting	[MODE] over 3 sec	→	
	[▲] + [▼] over 3 sec	\rightarrow	Digital input key	Auto	→	RUN
Supply	y the power with ng [M] + [◀]	\rightarrow	Parameter reset	Auto	→	
Supply pressi	y the power with ng [M]	\rightarrow	Input specification expansion ⁰¹⁾	Auto	\rightarrow	

01) Refer to 'Communication Parameter Setting' for checking the details about communication.

Parameter Setting

- Some parameters are activated/deactivated depending on the model or setting of other parameters. Refer to the descriptions of each item.
- [MODE] key: Move to next item after saving
- [◀] key: Select parameter / Move digits
- [▲], [▼] key: Select parameter / Change setting value
- Return to the RUN mode without saving when there is no key input for more than 30 seconds.

Monitoring Mode

Par	ameter	Display	Default	Setting range	Condition		
1-1	AL1 alarm temperature	AL I	099.9	Sensor input: within using range	0.45/47/40/04		
1-2	AL2 alarm temperature	AL 2	099.9	Analog Input: L-SC \leq AL $\Box \leq$ H-SC	2-15/17/19/21 AL-1/2/3/4		
1-3	AL3 alarm temperature	AL 3	000.1	[4 alarm output model]	operation:		
1-4	AL4 alarm temperature	ЯLЧ	000.1	Same as 1-1/2 AL1/2 alarm temperature	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
1-5	High peak	H.PE Ľ		Check only (not available to set) Displays high/low peak (Max./Min. input) value			
1-6	Low peak	L.PEĽ		 Initial high/low peak is saved after 2 sec from supplying the power. Value reset: [▲] + [▼] key over 3 sec in 1-5/6 High/Low peak parameter 	-		

	Program mode						
Para	meter	Display	Default	Setting range	Condition		
2-1	Input specification	In-P	R R I	Refer to 'Input Type and Using Range'.	-		
2-2	Temperature unit	Unit	٥٢	°C, °F	2-1 Input specification: Thermocouple, RTD		
2-3	Low limit input	L-rG	00.00	Using range low limit \leq L-RG \leq using range high limit - 10% of ES			
2-4	High limit	н-гБ	2000	L-RG + 10% of F.S. \leq H-RG \leq using			
2-5	input Decimal point	d.P	0.0	range high limit 0.0, 0.00, 0.000, 0	2-1 Input specification:		
2-6	Low limit scale	L-5C	000.0	$-1,999 \leq L-SC \leq H-SC \leq 9,999$	Analog		
2-7	High limit scale	н-5С	100.0	function: TUF			
2-8	Input	In-6	0000	-999 to 999, L-SC < IN-B < H-SC	2-1 Input specification: Thermocouple, RTD		
	concetion			-999 to 999, L-SC \leq L-RG \leq IN-B \leq H-RG \leq H-SC	2-1 Input specification: Analog		
2-9	Bar graph display low limit scale	L-65	000.0	 Input: Thermocouple, RTD Input range low limit ≤ L-BS ≤ (H-BS-1) (L-BS+1) ≤ H-BS ≤ Input range high 			
2-10	Bar graph display high limit scale	Н-Ь5	100.0	limit • Input: Analog L-SC \leq L-BS \leq (H-SC-1) (L-SC+1) \leq H-BS \leq H-SC	-		
2-11	Bar graph display method	ЬЯг	F.bAr	F.BAR: Full bar, C.BAR: Center bar	-		
2-12	4 mA transmission output scale 20 mA	L.oUE	000.0	[Transmission output model] • Input: Thermocouple, RTD: Within input range • Input: Analog	-		
2-13	transmission	H.oUE	100.0	$L-SC \le L.OUT \le 10\%$ of F.S.			
2-14	Input and transmission output extension ⁰²⁾	E %.1 0	5 P	String Input range Transmission OP No extension 4-20 mA SP ±5% extension 3.2 - 20.8 mA 10P ±10% extension 2.4 - 21.6 mA	2-1 Input specification: Analog		
2-15	AL1 alarm operation	- AL-1	AF I'A	[Alarm output model] AT0: Off AT1: Absolute high limit alarm AT2: Absolute low limit alarm SBA: Sensor break alarm	-		
2-16	AL1 alarm option			A: Standard alarm B: Alarm latch C: Standby D: Alarm latch and sequence standby sequence Enter to option setting: Press [◀] key in 2-15 AL-1 alarm operation.	-		
2-17 2-18	AL2 alarm operation AL2 alarm option	AL-5	AF I'A	[Alarm output model] Same as 2-15/16 AL1 alarm operation/ option	-		
2-19	AL3 alarm operation AL3 alarm option	AL-3	A F 5''	[4 alarm output model] Same as 2-15/16 AL1 alarm operation/	-		
2-21	AL4 alarm AL4 alarm option	AL-4	A F 5''	option			
2-23	Alarm output hysteresis	я-ну	001	001 to 999	2-15/17/19/21 AL-1/2/3/4 alarm operation: AT1, AT2		
2-24	Input special function	1 n.5 F	LIn	LIN: Linear, ROOT: Root, SQAR: Square, TUF: Two unit function	2-1 Input specification: Analog		
2-25	Input digital filter	ñ A u.F	04	01 (OFF) to 16 • It does not affect the display cycle.	-		
2-26	Digital input	dI-E	Hold	HOLD: Hold, ZERO: Zero-point	* 2-16/18/20/22		
2-27	Digital input	d1 - H	Hold	adjustment, AL.RE*: Alarm reset *[Alarm output model]	Alarm option:		
2 20	key Sensor break	<u> </u>		[Transmission output model]	B, D		
2-28	alarm output			OFF: 4 mA, ON: 20 mA			
2-29	address	Adrr	01	01 to 99	-		
2-30	Comm. speed	ьяиа	9600	[Communication output model] 9600, 4800, 2400, 1200 bps	-		
2-31	Lock	LoC	٥FF	OFF LOC1: Program mode lock (check only) Monitoring mode unlock LOC2: Checking and setting program mode lock Monitoring mode setting lock	-		

Communication Parameter Setting

RUN status group

Address	Parameter	Display	Output ra	ange			
300001 (0000)	Display value output	-	Display value				
			[2 alarm c [4 alarm c	utput mod utput mod	lel]: 0 to 3 lel]: 0 to 15		
			Output	Alarm sta	itus		
			value	Alarm 1	Alarm 2	Alarm 3	Alarm 4
			0	OFF	OFF	OFF	OFF
			1	ON	OFF	OFF	OFF
	Alarm output	-	2	OFF	ON	OFF	OFF
			3	ON	ON	OFF	OFF
			4	OFF	OFF	ON	OFF
200002 (0001)			5	ON	OFF	ON	OFF
300002 (0001)			6	OFF	ON	ON	OFF
			7	ON	ON	ON	OFF
			8	OFF	OFF	OFF	ON
			9	ON	OFF	OFF	ON
			10	OFF	ON	OFF	ON
			11	ON	ON	OFF	ON
			12	OFF	OFF	ON	ON
			13	ON	OFF	ON	ON
			14	OFF	ON	ON	ON
			15	ON	ON	ON	ON

Monitoring mode setting group

Address	Parameter	Display	Setting range
302001 (07D0)		AL I	[Alarm output model]
to	ALL - 4 didiiii	-	Thermocouple, RTD input: Within input specification,
302004 (07D3)	temperature	ЯLЧ	Analog input: L-SC~ H-SC
302005 (07D4)	High peak	H.PEĽ	-
302006 (07D5)	Low peak	L.PEŁ	-

Program mode setting group

Address	Parameter	Display	Setting range		Condition	
301001 (03E8)	Input specification	In-P	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Value Disp $(12) \downarrow \downarrow [$ $(13) \downarrow \downarrow \downarrow [$ $(14) \downarrow \downarrow \downarrow \downarrow$ $15 \downarrow \downarrow P$ $16 \downarrow P$ $17 \downarrow P$ arenthesis sion' mod	Value Display -P 18 R.r.R.I 50 19 R.r.R.Z 10 20 R.r.u L.1 21 R.r.u E.5 22 R-u L.1 23 R-uZ s can be set only in e. Refer to 'Mode	
301002 (03E9)	Temperature	Unit	0:°C,1:°F			
301003 (03EA)	Low limit Input	L-rG				
301004 (03EB)	High limit Input	Н-гБ	Same as parameter setting	range		
301005 (03EC)	Decimal point	d.P	0: 0, 1: 0.0, 2: 0.00, 3: 0.000			
301006 (03ED)	Low limit scale	L-5C	Come as parameter setting			
301007 (03EE)	High limit scale	H-5C	Same as parameter setting	ange		
301008 (03EF)	Bar graph display low limit scale	L-65	Same as parameter setting	range		
301009 (03F0)	Bar graph display high limit scale	Н-Ь5				
301010 (03F1)	Bar graph display method	6Аг	0: Full bar, 1: Center bar			
301011 (03F2)	4 mA transmission output scale	L.oUE	Same as parameter setting	rango		
301012 (03F3)	20 mA transmission output scale	H.o U E	Same as parameter setting			
301013 (03F4)	Input and transmission output extension	E 5.1 o	0:0%,1:5%,2:10%	Same as each parameter setting		
301014 (03F5)	AL 1 to 4	AL-I	1: Absolute high limit alarm	,	condition	
to 301017 (03F8)	alarm operation	- АL-Ч	2: Absolute low limit alarm, 3: Sensor break alarm, 4: Off	-		
301018 (03F9) to	AL 1 to 4	AL - 1	10: Standard alarm, 11: Alar 12: Standby sequence, 13: A	m latch, larm		
301021 (03FC)	alarm option	AL - 4	latch and standby sequence 14: No alarm (not settable)	,		
301022 (03FD)	Alarm output hysteresis	А-НУ	Same as parameter setting	range		
301023 (03FE)	Input special function	1 n.5 F	0: Linear, 1: Root, 2: Square, 3: Two unit function			
301024 (03FF)	Input correction	In-b	Same as parameter setting	range		
301025 (0400)	Input digital filter	ñ A u.F	Same as parameter setting range			
301026 (0401)	Digital input Terminal	di - E	0: Alarm reset, 1: Hold,			
301027 (0402)	Digital input key	d1 - 2	- 2. Zero-point adjustment			
301028 (0403)	Sensor break alarm output	bUrn	0: 20 mA, 1: 4 mA			
301029 (0404)	Comm. address	Addr	Same as parameter setting	range	1	
301030 (0405)	Comm. speed	ьяид	0: 9600, 1: 4800, 2: 2400, 3: 1	.200	1	
301031 (0406)	Lock	LoEY	0: OFF, 1: LOC1, 2: LOC2]	

01) When '2-24 input special function' parameter is set to 'TUF', the function corrects the atmospheric pressure input value.

02) Extension is not allowed below 0 mA and 0 V. ± 1 V and 10 V inputs cannot be set to 10P.

Function: Bar Graph

Display method setting

It is possible to set in bar graph display method parameter.



Alarm display in bar graph

When setting or occurring the alarm, it displays the status by the bar graph. It is possible to check the alarm status. When setting alarm value, the bar LED for this alarm value turns ON. When alarm occurs, the bar LED for this alarm value flashes.

• If alarm set value is out of bar graph scale when setting the value or in RUN mode, this value does not display in bar graph.

Monitoring mode: setting alarm value

Run mode: alarm display

The bar LED for alarm setting value flashes. When alarm set is complete, the bar LED for this alarm value turns ON.

All set alarm values are displays and when it is alarm value, the bar LED for this alarm value flashes н-ь5=1350 Е н-ь5=1350 ⋿



Scale value relation

Below is relation example of input specification, high/low limit input, high/low limit scale, bar graph display high/low limit scale, 4/20 mA transmission output scale when using 4 to 20 mA input specification.



Function: Input Special Function

When selecting analog input, this function is to display the calculated actual value by square, root ($\sqrt{}$), or two unit function (TUF) as display value.



Function: Input Digital Filter

Moving average digital filter is able to stably display and output the noise from input line and irregular signals as software.

Display cycle is same when executing moving average digital filter.



Function: High / Low-limit scale value

This function is to display setting of particular high / low-limit value in order to display high / low-limit value of measured input. If measured inputs are a and b and particular values are A and B, it will display a = A, b = B as below graphs.



Function: Alarm



Set both alarm operation and alarm option by combining. Each alarm operates individually in two alarm output models. When the current temperature is out of alarm range, alarm clears automatically.

Opera	ntion	• H: Alarm output hysteresis			
Name	Alarm operation	Description			
-	-		No alarm output		
Absolute value high limit	OFF H ON A PV 90°C Absolute value: Set as 90°C	OFF HON A PV 110°C Absolute value: Set as 110°C	If PV is higher than the absolute value, the output will be ON.		
Absolute value low limit	ON H OFF PV 90°C Absolute value: Set as 90°C	ON H OFF	If PV is lower than the absolute value, the output will be ON.		
Sensor break	-		It will be ON when it detects sensor disconnection.		

Option

- ohnon									
Name	Description	Condition of re-apply							
Standard alarm	If it is an alarm condition, alarm output is ON. If it is a clear alarm condition, alarm output is OFF.	-							
Alarm latch	If it is an alarm condition, alarm output is ON and maintains ON status.	-							
Standby sequence	First alarm condition is ignored and from second alarm condition, standard alarm operates. When power is supplied and it is an alarm condition, this first alarm condition is ignored and from the second alarm condition, standard alarm operates.	Power ON							
Alarm latch and standby sequence	If it is an alarm condition, it operates both alarm latch and standby sequence. When power is supplied and it is an alarm condition, this first alarm condition is ignored and from the second lalarm condition, alarm latch operates.								

Segment Table

The segments displayed on the product indicate the following meanings. It may differ depending on the product.

7 Segment			11 Segment			12 Segment				16 Segment					
0	0	1	1	٥	0	1	Ι	٥	0	1	1	٥	0	Ţ	Ι
1	1	J	J	1	1	J	J	1	1	J	J	1	1	Ū	J
2	2	ĥ	К	2	2	ĸ	К	2	2	К	К	2	2	к	Κ
Э	3	L	L	Э	3	L	L	Э	3	L	L	Э	3	L	L
Ч	4	ñ	М	Ч	4	М	М	Ч	4	М	М	Ч	4	М	М
5	5	n	Ν	5	5	N	Ν	5	5	N	Ν	S	5	Ν	Ν
6	6	٥	0	6	6	٥	0	Б	6	٥	0	6	6	۵	0
7	7	Ρ	Ρ	7	7	Ρ	Ρ	7	7	Ρ	Ρ	Л	7	Ρ	Ρ
8	8	9	Q	8	8	۵	Q	8	8	۵	Q	8	8	Q	Q
9	9	r	R	9	9	R	R	9	9	R	R	9	9	R	R
R	А	5	S	Я	А	5	S	Я	А	5	S	R	А	5	S
Ь	В	F	Т	Ь	В	Ł	Т	Ь	В	Ł	Т	3	В	Ţ	Т
Ľ	С	U	U	٢	С	U	U	٢	С	U	U	٢	С	U	U
d	D	U	V	d	D	V	V	d	D	V	V]]	D	¥.	V
Ε	Е	Ū.	W	Ε	Е	М	W	Ε	Е	М	W	Ε	Е	И	W
F	F	5	Х	F	F	×	Х	F	F	×	Х	F	F	×	Х
6	G	Ч	Υ	G	G	Ч	Y	6	G	Ч	Y	6	G	Y	Y
Н	Н	Ξ	Ζ	н	Н	Z	Ζ	н	Н	Z	Ζ	н	Н	2	Ζ