

Section 24 Specifications

24.1 JMR-9230-S3

GENERAL SPECIFICATION		JMR-9230-S3
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 450VA Approx. 1900VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1139
See Section 24.25		
Transmitter Receiver Unit		NTG-3230
See Section 24.33		
Performance Monitor		NJU-84
See Section 24.35		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1139-D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		N/A
Scanner unit to transmitter receiver unit		30m
Display unit to transmitter receiver unit		35m
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		1.4m
Transmitter Receiver Unit		3.9m
Display unit		2.4m

24.2 JMR-9230-S

GENERAL SPECIFICATION		JMR-9230-S
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		
- Relative Humidity		93% at +40°C
Ambient Condition		
- Vibration		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$ 13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 450VA Approx. 1900VA at Maximum wind speed (DC: 72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1130
See Section 24.26		
Performance Monitor		NJU-84
See Section 24.35		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1139-D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		5.1m
Transmitter Receiver Unit		N/A
Display unit		2.4m

24.3 JMR-9225-9X3

GENERAL SPECIFICATION		JMR-9225-9X3
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 300VA Approx. 1700VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1129-9
See Section 24.27		
Transmitter Receiver Unit		NTG-3225
See Section 24.34		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1129-9D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		N/A
Scanner unit to transmitter receiver unit		30m
Display unit to transmitter receiver unit		35m
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		1.05m
Transmitter Receiver Unit		2.8m
Display unit		2.4m

24.4 JMR-9225-7X3

GENERAL SPECIFICATION		JMR-9225-7X3
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 300VA Approx. 1700VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1129-7
See Section 24.27		
Transmitter Receiver Unit		NTG-3225
See Section 24.34		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1129-7D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		N/A
Scanner unit to transmitter receiver unit		30m
Display unit to transmitter receiver unit		35m
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		1.05m
Transmitter Receiver Unit		2.8m
Display unit		2.4m

24.5 JMR-9225-9X

GENERAL SPECIFICATION		JMR-9225-9X
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 300VA Approx. 1700VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1125-9
See Section 24.28		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1125-9D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.6 JMR-9225-6X

GENERAL SPECIFICATION		JMR-9225-6X
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		
- Relative Humidity		93% at +40°C
Ambient Condition		
- Vibration		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$ 13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 300VA Approx. 1700VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input +30%/-10%
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1125-6
See Section 24.28		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1125-6D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.7 JMR-9225-6XH

GENERAL SPECIFICATION		JMR-9225-6XH
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. AC 150VA, DC: 150W Approx. AC:240VA, DC: 350W at Maximum wind speed (DC:72W max at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2254-6HS
See Section 24.29		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-2254-6HSD
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.8 JMR-9210-6X

GENERAL SPECIFICATION		JMR-9210-6X
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		
- Relative Humidity		93% at +40°C
Ambient Condition		
- Vibration		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$ 13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. AC:150VA, DC: 150W Approx. AC:240VA, DC: 200W at Maximum wind speed (DC:72W max at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2103-6
See Section 24.30		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		N/A
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.9 JMR-9210-6XH

GENERAL SPECIFICATION		JMR-9210-6XH
Class of emission		P0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. AC:150VA, DC: 150W Approx. AC:240VA, DC: 300W at Maximum wind speed (DC:72W max at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2103-6HS
See Section 24.30		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		N/A
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.10 JMR-9272-S

GENERAL SPECIFICATION		JMR-9272-S
Class of emission		P0N, Q0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 35m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 400VA Approx. 1900VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 10 seconds
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1632
See Section 24.31		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1632-D/NKE-1632-E
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		0.8m
Transmitter Receiver Unit		N/A
Display unit		2.4m

24.11 JMR-9282-S

GENERAL SPECIFICATION		JMR-9282-S
Class of emission		P0N, Q0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 35m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 350VA Approx. 1500VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 10 seconds
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2632
See Section 24.32		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-2632-D/NKE-2632-E
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		0.8m
Transmitter Receiver Unit		N/A
Display unit		2.4m

24.12 JMR-9282-SH

GENERAL SPECIFICATION		JMR-9282-SH
Class of emission		P0N, Q0N
Display		Color Raster Scan
Screen		26inch Wide LCD (Effective diameter of RADAR: more than 320mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 35m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North-UP/Course-UP/Heading-UP/Waypoint-UP True motion mode: N-UP/C-UP/Waypoint-UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		93% at +40°C
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 400VA Approx. 1900VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 10 seconds
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2632-H
See Section 24.32		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display Unit		NWZ-208
See Section 24.44		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-2632-HD/NKE-2632-HE
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
26inch DESKTOP FRAME RACK		CWB-1595
26inch DISPLAY UNIT MOUNT KIT		CWA-246
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to transmitter receiver unit		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		0.6m
Transmitter Receiver Unit		N/A
Display unit		2.4m

24.13 JMR-7230-S3

GENERAL SPECIFICATION		JMR-7230-S3
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		+40°C, 93%
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude ±1mm ±10%
- Vibration		13.2 to 100Hz: Acceleration 7m/s ²
Power Supply Input		100 to 115VAC, 50/60Hz 1φ 220 to 240VAC, 50/60Hz 1φ 24VDC
Power Consumption		Rating: Approx. 450VA Approx. 1900VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input ±10% DC input +30%/-10%
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1139
See Section 24.25		
Transmitter Receiver Unit		NTG-3230
See Section 24.33		
Performance Monitor		NJU-84
See Section 24.35		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1139-D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		N/A
Scanner unit to TXRX		30m
Display unit to transmitter receiver unit		35m
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		1.4m
Transmitter Receiver Unit		3.9m
Display unit		2.4m

24.14 JMR-7230-S

GENERAL SPECIFICATION		JMR-7230-S
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		+40°C, 93%
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm}$ $\pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 400VA Approx. 1900VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1130
See Section 24.26		
Performance Monitor		NJU-84
See Section 24.35		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1139-D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		5.1m
Transmitter Receiver Unit		N/A
Display unit		2.4m

24.15 JMR-7225-9X3

GENERAL SPECIFICATION		JMR-7225-9X3
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		+40°C, 93%
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude ±1mm ±10%
- Vibration		13.2 to 100Hz: Acceleration 7m/s ²
Power Supply Input		100 to 115VAC, 50/60Hz 1φ 220 to 240VAC, 50/60Hz 1φ 24VDC
Power Consumption		Rating: Approx. 300VA Approx. 1700VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input ±10% DC input +30%/-10%
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1129-9
See Section 24.27		
Transmitter Receiver Unit		NTG-3225
See Section 24.34		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1129-9D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		N/A
Scanner unit to TXRX		30m
Display unit to transmitter receiver unit		35m
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		1.05m
Transmitter Receiver Unit		2.8m
Display unit		2.4m

24.16 JMR-7225-7X3

GENERAL SPECIFICATION		JMR-7225-7X3
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		+40°C, 93%
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude ±1mm ±10%
- Vibration		13.2 to 100Hz: Acceleration 7m/s ²
Power Supply Input		100 to 115VAC, 50/60Hz 1φ 220 to 240VAC, 50/60Hz 1φ 24VDC
Power Consumption		Rating: Approx. 300VA Approx. 1700VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input ±10% DC input+30%/-10%
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1129-7
See Section 24.27		
Transmitter Receiver Unit		NTG-3225
See Section 24.34		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1129-7D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		N/A
Scanner unit to TXRX		30m
Display unit to transmitter receiver unit		35m
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		1.05m
Transmitter Receiver Unit		2.8m
Display unit		2.4m

24.17 JMR-7225-9X

GENERAL SPECIFICATION		JMR-7225-9X
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		
- Relative Humidity		+40°C, 93%
Ambient Condition		
- Vibration		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$ 13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 300VA Approx. 1700VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input +30%/-10%
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1125-9
See Section 24.28		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1125-9D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.18 JMR-7225-6X

GENERAL SPECIFICATION		JMR-7225-6X
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		
- Relative Humidity		+40°C, 93%
Ambient Condition		
- Vibration		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$ 13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 300VA Approx. 1700VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input +30%/-10%
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1125-6
See Section 24.28		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1125-6D
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.19 JMR-7225-6XH

GENERAL SPECIFICATION		JMR-7225-6XH
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		
- Relative Humidity		+40°C, 93%
Ambient Condition		
- Vibration		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$ 13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 150VA, 150W DC Approx. 240VA, 350W DC at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input +30%/-10%
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2254-6HS
See Section 24.29		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		N/A
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.20 JMR-7210-6X

GENERAL SPECIFICATION		JMR-7210-6X
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		
- Relative Humidity		+40°C, 93%
Ambient Condition		
- Vibration		2 to 13.2Hz: Amplitude ±1mm ±10% 13.2 to 100Hz: Acceleration 7m/s ²
Power Supply Input		100 to 115VAC, 50/60Hz 1φ 220 to 240VAC, 50/60Hz 1φ 24VDC
Power Consumption		Rating: Approx. 150VA, 150W DC Approx. 240VA, 200W DC at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input ±10% DC input +30%/-10%
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2103-6
See Section 24.30		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		N/A
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.21 JMR-7210-6XH

GENERAL SPECIFICATION		JMR-7210-6XH
Class of emission		P0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 40m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		+40°C, 93%
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 150VA, 150W DC Approx. 240VA, 300W DC at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 4 minutes
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2103-6HS
See Section 24.30		
Performance Monitor		NJU-85
See Section 24.36		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		N/A
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		2.4m
Display unit		2.4m

24.22 JMR-7272-S

GENERAL SPECIFICATION		JMR-7272-S
Class of emission		P0N, Q0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 35m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		+40°C, 93%
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 400VA Approx. 1800VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 10 seconds
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-1632
See Section 24.31		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-1632-D/NKE-1632-E
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		0.8m
Transmitter Receiver Unit		N/A
Display unit		2.4m

24.23 JMR-7282-S

GENERAL SPECIFICATION		JMR-7282-S
Class of emission		P0N, Q0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 35m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		+40°C, 93%
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm}\pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 350VA Approx. 1400VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 10 seconds
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2632
See Section 24.32		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-2632-D/NKE-2632-E
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		0.8m
Transmitter Receiver Unit		N/A
Display unit		2.4m

24.24 JMR-7282-SH

GENERAL SPECIFICATION		JMR-7282-SH
Class of emission		P0N, Q0N
Display		Color Raster Scan
Screen		19inch Wide LCD (Effective diameter of RADAR: more than 250mm)
Range Scale		0.125/0.25/0.5/0.75/1.5/3/6/12/24/48/96 NM
Range Resolution		Less than 30m
Minimum Detection Range		Less than 35m
Bearing Accuracy		Less than 1°
Bearing Indication		Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Waypoint UP
Ambient Condition		Scanner Unit: -25°C to +55°C (Storage -25°C to +70°C)
- Operating Temperature		Other Unit: -15°C to +55°C
Ambient Condition		+40°C, 93%
- Relative Humidity		
Ambient Condition		2 to 13.2Hz: Amplitude $\pm 1\text{mm} \pm 10\%$
- Vibration		13.2 to 100Hz: Acceleration 7m/s^2
Power Supply Input		100 to 115VAC, 50/60Hz 1 ϕ 220 to 240VAC, 50/60Hz 1 ϕ 24VDC
Power Consumption		Rating: Approx. 400VA Approx. 1800VA at Maximum wind speed (DC:72W at AC power outage)
Power Supply Voltage Fluctuation		AC input $\pm 10\%$ DC input $+30\%/-10\%$
Pre Heating Time		Within 10 seconds
From standby to transmit		Within 5 seconds
Scanner Unit		NKE-2632-H
See Section 24.32		
Display		
Central processing unit		NDC-1590
Power Supply Unit		NBD-913
Trackball Operation Unit		NCE-5605
Display		NWZ-207
See Section 24.43		
Junction Box		NQE-1143
Option Unit		
Scanner Unit Deicing Heater		NKE-2632-HD/NKE-2632-HE
Keyboard Operation Unit		NCE-5625
OPERATION UNIT DESKTOP FRAME RACK		CWB-1596
Sensor LAN Switch Unit		NQA-2443
19inch DESKTOP FRAME RACK		CWB-1594
19inch DISPLAY UNIT MOUNT KIT		CWA-245
Inter Switch Unit		NQE-3141-4A NQE-3141-8A
Power Control Unit		NQE-3167
MAXIMUM CABLE LENGTH		
Display to scanner unit		65m
Scanner unit to TXRX		N/A
Display unit to transmitter receiver unit		N/A
SAFE DISTANCE FOR STANDARD COMPASS		
Scanner Unit		0.6m
Transmitter Receiver Unit		N/A
Display unit		2.4m

24.25 NKE-1139

GENERAL SPECIFICATION	NKE-1139
Dimension	Height 791 × Swing Circle 4000 (mm)
Mass	Approx. 150kg
Polarization	Horizontal
Horizontal beam width:	1.9°
Vertical beam width:	25°
Side lobe level:	below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution	Approx. 24 rpm
Power Supply for Motor	100 to 115VAC, 50/60Hz 1ϕ or 220 to 240VAC, 50/60Hz 1ϕ
Maximum Wind Velocity	51.5m/s (100kt)

24.26 NKE-1130

GENERAL SPECIFICATION		NKE-1130
Dimension		Height 791 × Swing Circle 4000 (mm)
Mass		Approx. 180kg
Polarization		Horizontal
Horizontal beam width:		1.9°
Vertical beam width:		25°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 24 rpm
Power Supply for Motor		100 to 115VAC, 50/60Hz 1ϕ or 220 to 240VAC, 50/60Hz 1ϕ
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		3050 ±20MHz
Transmitting Power		30kW ±50%
Transmitting Tube		Magnetron [M1555]
TX Pulse width / Repetition Frequency (Observation Range)		SP1: 0.07μs/2250Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM)
		MP1: 0.2μs/2250Hz (0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP2: 0.3μs/1900Hz (1.5NM, 3NM, 6NM, 12NM)
		MP3: 0.4μs/1400Hz (1.5NM, 3NM, 6NM, 12NM, 24NM)
		LP1: 0.8μs/750Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.0μs/650Hz (6NM, 12NM, 24NM, 48NM)
		LP3: 1.2μs/510Hz (96NM)
Modulator		Solid State Modulator Circuit
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		7.5dB (typical)
Tuning		Manual/AUTO
Intermediate Frequency Amplifier		
Intermediate Frequency		60MHz
Band Width		25/8/3MHz
Gain		More than 90dB
Amplifying Characteristics		Logarithmic Amplifier

24.27 NKE-1129

GENERAL SPECIFICATION	NKE-1129-7
Dimension	Height 536 × Swing Circle 2270 (mm)
Mass	Approx. 51kg
Polarization	Horizontal
Horizontal beam width:	1.0°
Vertical beam width:	20°
Side lobe level:	below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution	Approx. 24 rpm
Power Supply for Motor	100 to 115VAC, 50/60Hz 1φ or 220 to 240VAC, 50/60Hz 1φ
Maximum Wind Velocity	51.5m/s (100kt)
GENERAL SPECIFICATION	NKE-1129-9
Dimension	Height 536 × Swing Circle 2825 (mm)
Mass	Approx. 53kg
Polarization	Horizontal
Horizontal beam width:	0.8°
Vertical beam width:	20°
Side lobe level:	below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution	Approx. 24 rpm
Power Supply for Motor	100 to 115VAC, 50/60Hz 1φ or 220 to 240VAC, 50/60Hz 1φ
Maximum Wind Velocity	51.5m/s (100kt)

24.28 NKE-1125

GENERAL SPECIFICATION		NKE-1125-9
Dimension		Height 536 × Swing Circle 2825 (mm)
Mass		Approx. 60kg
Polarization		Horizontal
Horizontal beam width:		0.8°
Vertical beam width:		20°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 24 rpm
Power Supply for Motor		100 to 115VAC, 50/60Hz 1ϕ or 220 to 240VAC, 50/60Hz 1ϕ
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		9410 ±30MHz
Transmitting Power		25kW ±50%
Transmitting Tube		Magnetron [M1568BS]
TX Pulse width / Repetition Frequency (Observation Range)		SP1: 0.07μs/2250Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP1: 0.2μs/2250Hz (0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP2: 0.3μs/1900Hz (1.5NM, 3NM, 6NM, 12NM)
		MP3: 0.4μs/1400Hz (1.5NM, 3NM, 6NM, 12NM, 24NM)
		LP1: 0.8μs/750Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.0μs/650Hz (6NM, 12NM, 24NM, 48NM)
		LP3: 1.2μs/510Hz (96NM)
Modulator		Solid State Modulator Circuit
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		7.5dB (typical)
Tuning		Manual/AUTO
Intermediate Frequency Amplifier		
Intermediate Frequency		60MHz
Band Width		25/8/3MHz
Gain		More than 90dB
Amplifying Characteristics		Logarithmic Amplifier
GENERAL SPECIFICATION		NKE-1125-6
Dimension		Height 536 × Swing Circle 1910 (mm)
Mass		Approx. 55kg
Polarization		Horizontal
Horizontal beam width:		1.2°
Vertical beam width:		20°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 24 rpm
Power Supply for Motor		100 to 115VAC, 50/60Hz 1ϕ or 220 to 240VAC, 50/60Hz 1ϕ
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		9410 ±30MHz
Transmitting Power		25kW
Transmitting Tube		Magnetron [M1568BS]
TX Pulse width / Repetition Frequency (Observation Range)		SP1: 0.07μs/2250Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP1: 0.2μs/2250Hz (0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP2: 0.3μs/1900Hz (1.5NM, 3NM, 6NM, 12NM)
		MP3: 0.4μs/1400Hz (1.5NM, 3NM, 6NM, 12NM, 24NM)
		LP1: 0.8μs/750Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.0μs/650Hz (6NM, 12NM, 24NM, 48NM)
		LP3: 1.2μs/510Hz (96NM)
Modulator		Solid State Modulator Circuit
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		7.5dB (typical)
Tuning		Manual/AUTO
Intermediate Frequency Amplifier		
Intermediate Frequency		60MHz
Band Width		25/8/3MHz
Gain		More than 90dB
Amplifying Characteristics		Logarithmic Amplifier

24.29 NKE-2254-6HS

GENERAL SPECIFICATION		NKE-2254-6HS
Dimension		Height 536 × Swing Circle 1910 (mm)
Mass		Approx. 55kg
Polarization		Horizontal
Horizontal beam width:		1.2°
Vertical beam width:		20°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 48 rpm
Power Supply for Motor		24VDC
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		9410 ±30MHz
Transmitting Power		25kW ±50%
Transmitting Tube		Magnetron [M1568BS]
TX Pulse width / Repetition Frequency (Observation Range)		SP1: 0.07μs/2250Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP1: 0.2μs/2250Hz (0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP2: 0.3μs/1900Hz (1.5NM, 3NM, 6NM, 12NM)
		MP3: 0.4μs/1400Hz (1.5NM, 3NM, 6NM, 12NM, 24NM)
		LP1: 0.8μs/750Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.0μs/650Hz (6NM, 12NM, 24NM, 48NM)
		LP3: 1.2μs/510Hz (96NM)
Modulator		Solid State Modulator Circuit
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		7.5dB (typical)
Tuning		Manual/AUTO
Intermediate Frequency Amplifier		
Intermediate Frequency		60MHz
Band Width		25/8/3MHz
Gain		More than 90dB
Amplifying Characteristics		Logarithmic Amplifier

24.30 NKE-2103

GENERAL SPECIFICATION		NKE-2103-6
Dimension		Height 458 × Swing Circle 1910 (mm)
Mass		Approx. 36kg
Polarization		Horizontal
Horizontal beam width:		1.2°
Vertical beam width:		20°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 27 rpm
Power Supply for Motor		24VDC
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		9410 ±30MHz
Transmitting Power		10kW ±50%
Transmitting Tube		Magnetron [MAF1565N]
TX Pulse width / Repetition Frequency (Observation Range)		SP1: 0.08μs/2250Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP1: 0.25μs/1700Hz (0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP2: 0.5μs/1200Hz (1.5NM, 3NM, 6NM, 12NM, 48NM)
		LP1: 0.8μs/750Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.0μs/650Hz (6NM, 12NM, 24NM, 48NM, 96NM)
Modulator		Solid State Modulator Circuit
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		7.5dB (typical)
Tuning		Manual/AUTO
Intermediate Frequency Amplifier		
Intermediate Frequency		60MHz
Band Width		25/8/3MHz
Gain		More than 90dB
Amplifying Characteristics		Logarithmic Amplifier
GENERAL SPECIFICATION		NKE-2103-6HS
Dimension		Height 458 × Swing Circle 1910 (mm)
Mass		Approx. 37kg
Polarization		Horizontal
Horizontal beam width:		1.2°
Vertical beam width:		20°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 48 rpm
Power Supply for Motor		24VDC
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		9410 ±30MHz
Transmitting Power		10kW
Transmitting Tube		Magnetron [MAF1565N]
TX Pulse width / Repetition Frequency (Observation Range)		SP1: 0.08μs/2250Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP1: 0.25μs/1700Hz (0.75NM, 1.5NM, 3NM, 6NM, 12NM)
		MP2: 0.5μs/1200Hz (1.5NM, 3NM, 6NM, 12NM, 48NM)
		LP1: 0.8μs/750Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.0μs/650Hz (6NM, 12NM, 24NM, 48NM, 96NM)
Modulator		Solid State Modulator Circuit
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		7.5dB (typical)
Tuning		Manual/AUTO
Intermediate Frequency Amplifier		
Intermediate Frequency		60MHz
Band Width		25/8/3MHz
Gain		More than 90dB
Amplifying Characteristics		Logarithmic Amplifier

24.31 NKE-1632

GENERAL SPECIFICATION		NKE-1632
Dimension		Height 791 × Swing Circle 4000 (mm)
Mass		Approx. 160kg
Polarization		Horizontal
Horizontal beam width:		1.9°
Vertical beam width:		25°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 24 rpm
Power Supply for Motor		100 to 115VAC, 50/60Hz 1φ or 220 to 240VAC, 50/60Hz 1φ
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		P0N(3035MHz), Q0N(3065 ±4MHz) or (3060 ±4MHz)
Transmission output		Peak-to-peak value 250W ±50% (Average value 5.8W or lower)
Transmitting Tube		Solid State Device
TX Pulse width (1st) / (TX Pulse width, Frequency Deviation Width (2nd)) / Repetition Frequency (Observation Range)		SP1: 0.07μs/(4.6μs, 8MHz)/1860Hz or 2280Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM)
		MP1: 0.14μs/(9.1μs, 8MHz)/1860Hz or 2280Hz (0.75NM, 1.5NM, 3NM, 6NM)
		MP2: 0.29μs/(9.1μs, 8MHz)/1860Hz or 2280Hz (1.5NM, 3NM, 6NM, 12NM)
		LP1: 0.57μs/(9.1μs, 8MHz)/1280Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.14μs/(18.3μs, 8MHz)/640Hz (3NM, 6NM, 12NM, 24NM, 48NM, 96NM)
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		4.0dB (typical)
Performance Monitor		Built-in
Intermediate Frequency Amplifier		
Intermediate Frequency		63MHz
Band Width		30MHz
Gain		More than 28dB
Amplifying Characteristics		Linear Amplifier

24.32 NKE-2632

GENERAL SPECIFICATION		NKE-2632
Dimension		Height 720 × Swing Circle 2770 (mm)
Mass		Approx. 85kg
Polarization		Horizontal
Horizontal beam width:		2.7°
Vertical beam width:		25°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 24 rpm
Power Supply for Motor		100 to 115VAC, 50/60Hz 1ϕ or 220 to 240VAC, 50/60Hz 1ϕ
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		P0N(3035MHz), Q0N(3065 ±4MHz) or (3060 ±4MHz)
Transmission output		Peak-to-peak value 250W±50% (Average value 5.8W or lower)
Transmitting Tube		Solid State Device
TX Pulse width (1st) / (TX Pulse width, Frequency Deviation Width (2nd)) / Repetition Frequency (Observation Range)		SP1: 0.07μs/(4.6μs, 8MHz)/1860Hz or 2280Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM)
		MP1: 0.14μs/(9.1μs, 8MHz)/1860Hz or 2280Hz (0.75NM, 1.5NM, 3NM, 6NM)
		MP2: 0.29μs/(9.1μs, 8MHz)/1860Hz or 2280Hz (1.5NM, 3NM, 6NM, 12NM)
		LP1: 0.57μs/(9.1μs, 8MHz)/1280Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.14μs/(18.3μs, 8MHz)/640Hz (3NM, 6NM, 12NM, 24NM, 48NM, 96NM)
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		4.0dB (typical)
Performance Monitor		Built-in
Intermediate Frequency Amplifier		
Intermediate Frequency		63MHz
Band Width		30MHz
Gain		More than 28dB
Amplifying Characteristics		Linear Amplifier
GENERAL SPECIFICATION		NKE-2632-H
Dimension		Height 720 × Swing Circle 2770 (mm)
Mass		Approx. 90kg
Polarization		Horizontal
Horizontal beam width:		2.7°
Vertical beam width:		25°
Side lobe level:		below -26dB (within ±10°) below -30dB (outside ±10°)
Revolution		Approx. 48 rpm
Power Supply for Motor		100 to 115VAC, 50/60Hz 1ϕ or 220 to 240VAC, 50/60Hz 1ϕ
Maximum Wind Velocity		51.5m/s (100kt)
Transmitting Frequency		P0N(3035MHz), Q0N(3065 ±4MHz) or (3060 ±4MHz)
Transmission output		Peak-to-peak value 250W±50% (Average value 5.8W or lower)
Transmitting Tube		Solid State Device
TX Pulse width (1st) / (TX Pulse width, Frequency Deviation Width (2nd)) / Repetition Frequency (Observation Range)		SP1: 0.07μs/(4.6μs, 8MHz)/1860Hz or 2280Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM)
		MP1: 0.14μs/(9.1μs, 8MHz)/1860Hz or 2280Hz (0.75NM, 1.5NM, 3NM, 6NM)
		MP2: 0.29μs/(9.1μs, 8MHz)/1860Hz or 2280Hz (1.5NM, 3NM, 6NM, 12NM)
		LP1: 0.57μs/(9.1μs, 8MHz)/1280Hz (3NM, 6NM, 12NM, 24NM)
		LP2: 1.14μs/(18.3μs, 8MHz)/640Hz (6NM, 12NM, 24NM, 48NM, 96NM)
Duplexer		Circulator + Diode Limiter
Front End Module		Built-in
Overall Noise Figure		4.0dB (typical)
Performance Monitor		Built-in
Intermediate Frequency Amplifier		
Intermediate Frequency		63MHz
Band Width		30MHz
Gain		More than 28dB
Amplifying Characteristics		Linear Amplifier

24.33 NTG-3230

GENERAL SPECIFICATION	NTG-3230
Dimension	Width 615 × Depth 365 × Height 615 (mm)
Structure	Wall mount, Drip Proof
Mass	Approx. 33kg
Transmitting Frequency	3050 ±20MHz
Transmitting Power	30kW ±50%
Transmitting Tube	Magnetron [M1555]
TX Pulse width / Repetition Frequency (Observation Range)	SP1: 0.07μs/2250Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM)
	MP1: 0.2μs/2250Hz (0.75NM, 1.5NM, 3NM, 6NM, 12NM)
	MP2: 0.3μs/1900Hz (1.5NM, 3NM, 6NM, 12NM)
	MP3: 0.4μs/1400Hz (1.5NM, 3NM, 6NM, 12NM, 24NM)
	LP1: 0.8μs/750Hz (3NM, 6NM, 12NM, 24NM)
	LP2: 1.0μs/650Hz (6NM, 12NM, 24NM, 48NM)
	LP3: 1.2μs/510Hz (96NM)
Modulator	Solid State Modulator Circuit
Duplexer	Circulator + TRHPL
Front End Module	Built-in
Overall Noise Figure	7.5dB (typical)
Tuning	Manual/AUTO
Intermediate Frequency Amplifier	
Intermediate Frequency	60MHz
Band Width	25/8/3MHz
Gain	More than 90dB
Amplifying Characteristics	Logarithmic Amplifier

24.34 NTG-3225

GENERAL SPECIFICATION	NTG-3225
Dimension	Width 460 × Depth 227 × Height 461 (mm)
Structure	Wall mount, Drip Proof
Mass	Approx. 15kg
Transmitting Frequency	9410 ±30MHz
Transmitting Power	25kW ±50%
Transmitting Tube	Magnetron [M1555]
TX Pulse width / Repetition Frequency (Observation Range)	SP1: 0.07μs/2250Hz (0.125NM, 0.25NM, 0.5NM, 0.75NM, 1.5NM, 3NM, 6NM, 12NM)
	MP1: 0.2μs/2250Hz (0.75NM, 1.5NM, 3NM, 6NM, 12NM)
	MP2: 0.3μs/1900Hz (1.5NM, 3NM, 6NM, 12NM)
	MP3: 0.4μs/1400Hz (1.5NM, 3NM, 6NM, 12NM, 24NM)
	LP1: 0.8μs/750Hz (3NM, 6NM, 12NM, 24NM)
	LP2: 1.0μs/650Hz (6NM, 12NM, 24NM, 48NM)
	LP3: 1.2μs/510Hz (96NM)
Modulator	Solid State Modulator Circuit
Duplexer	Circulator + Diode Limiter
Front End Module	Built-in
Overall Noise Figure	7.5dB (typical)
Tuning	Manual/AUTO
Intermediate Frequency Amplifier	
Intermediate Frequency	60MHz
Band Width	25/8/3MHz
Gain	More than 90dB
Amplifying Characteristics	Logarithmic Amplifier

24.35 NJU-84

GENERAL SPECIFICATION	NJU-84
Dimension	Width 130 × Depth 180 × Height 70 (mm)
Mass	0.7kg
Operating Frequency	3050 ±30MHz

24.36 NJU-85

GENERAL SPECIFICATION	NJU-85
Dimension	Width 130 × Depth 149 × Height 70 (mm)
Mass	0.7kg
Operating Frequency	9410 ±30MHz

24.37 Display Unit

<Radar function>

FUNCTIONAL SPECIFICATION	
View	
Range Scale	0.125, 0.25, 0.5, 0.75, 1.5, 3, 6, 12, 24, 48, 96NM
Motion mode	TM (True Motion) display/(RM (Relative Motion) display
Bearing display mode	Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Head UP/Waypoint UP
Constaview	Yes
Off Center	Within 66% of Radius, except 96NM range.
Tuning Indication	Bar graph
Trails Indication	Off/0.25/0.5/1/3/6/10/15/30/60min
Own ship track	Yes
2nd PPI	Yes
Navigational tools	
Bearing Scale	360° in 1° step
Heading Line Indication	Yes
Range Marker	0.025, 0.05, 0.1, 0.25, 0.5, 1, 2, 4, 8, 16 NM
Range Accuracy	Less than 1% of the Range Scale in use, or 30m whichever is larger.
Variable Range Marker (VRM)	2
VRM range display	0.000 to 96.0NM, 4-digit display
Electronic Bearing Line (EBL)	2 (center/independent)
EBL bearing display	0.000 to 359.9°, 4-digit display
Trackball Cursor	Yes (range, true/relative bearing, TTG, ETA display)
Parallel Index Line (PI)	Yes (All/Individual/Track/Equiangular)
Signal Process	
Anti Sea Clutter (SEA)	Manual/AUTO
Anti Rain Clutter (RAIN)	Manual/AUTO
Interference Rejection (IR)	Yes
Video Process	Yes
TT/AIS	
Auto-acquisition Zone (AZ)	2 (Sector)
TT indication	100
AIS indication	500 (Sleeping/Activate) #Option: up to 1000
Chart Functions (option)	
Chart display function	S-57 Ed3.0/3.1 S-63 C-Map Ed3.0 Professional/Professional+ C-Map ENC Jeppesen PRIMAR ECDIS Service Display color: 64 colors
Chart additional function	AVCS Pre-install AIO C-Map Dynamic License
Sailing monitoring functions	
Own ship	Monitoring by positioning equipment Time stamp display Dragging anchor monitoring Own ship track display
Route monitoring	Safety contour cross monitoring Spot depth monitoring Monitoring obstacle and approaching obstruction and prohibited area (S-57/S-63/C-Map) Cross track monitoring Next WP arrival monitoring Off-course monitoring
User Map	
Number of points displayed	100,000 points (marks, lines)
Export	Possible (USB memory)
Other functions	
Wave analysis function (optional)	Wave height, wave length, wave cycle, and wave direction can be displayed
Data display functions	Conning data block display
Self-diagnosis function	Available
Remote maintenance function	Available
Upgrading to multi-function display	Possible

Receivable signals (i)	
Ship heading	THS > HDT (over 40Hz)
Course	GGA > RMC > RMA > GNS > GLL
Geodetic positioning system	DTM
Date information	ZDA
COG/SOG	RMC > RMA > VTG
Ship speed through water	VBW
Turning speed	ROT
Water depth	DPT > DBS > DBK > DBT
Wind direction/wind speed	MWV > MWD
Air temperature	MTA > MDA
Water temperature	MTW > MDA
Atmospheric pressure	MMB > MDA
Humidity	MHU > MDA
AIS	VDM, VDO
Alert	ACK, ALR
Transmittable signals	
RADAR system data	RSD
Own ship data	OSD
Watch Timer Reset	EVE
TT data	TTM, TLL, TTD, TLB
AIS target data	TTM, TLL, TTD, TLB
AIS remote control data	VSD, AIR, AIQ, ABM, BBM
Remote maintenance data	JRC format
Alert	ACK, ALR
Visual range	
Visual range	1.05m from the center of display

- i. The Speed measuring accuracy of speed sensor shall confirm to IMO Resolution MSC.96(72).
The measuring accuracy of GPS shall confirm to IMO Resolution MSC.112(73).

<ECDIS function>

FUNCTIONAL SPECIFICATION	
View	
Scale	1:1,000 - 1:30,000,000
Range	0.125, 0.25, 0.5, 0.75, 1.5, 3, 6, 12, 24, 48, 96NM
Motion mode	TM (True Motion) display/(RM (Relative Motion) display
Electronic Bearing Line (EBL)	Relative motion mode: North UP/Course UP/Head UP/Waypoint UP True motion mode: North UP/Course UP/Head UP/Waypoint UP
View mode	Zoom area selection Fix View Multi View Chart drag Off Center Chart original scale display
Sailing tools	
Bearing Scale	360° in 1° step
Heading Line Indication	Yes
Range Marker	0.025, 0.05, 0.1, 0.25, 0.5, 1, 2, 4, 8, 16 NM
Variable Range Marker (VRM)	2
VRM range display	0.000 to 999.9NM, 4-digit display
Electronic Bearing Line (EBL)	2 (center/independent)
EBL bearing display	0.000 to 359.9°, 4-digit display
Trackball Cursor	Yes (range, true/relative bearing, TTG, ETA display)
Parallel Index Line (PI)	Yes (All/Individual/Track/Equiangular)
Chart functions	
Chart display function	S-57 Ed3.0/3.1 S-63 C-Map Ed3.0 Professional/Professionanl+ C-Map ENC Jeppesen PRIMAR ECDIS Service ARCS
Chart addition function	AVCS Pre-install AIO C-Map Dynamic License
Update	Manual/Semi-automatic
Route plan functions	
Route creation	Table editing Graphic editing
Route editing	Way Point addition/deletion/editing Alternative route creation Route copying Inter-route connection
Safety check	Available
Number of routes displayed	Up to 4 types
Route monitoring functions	
Own ship	Monitoring by positioning equipment Monitoring by duplicated positioning equipment Time stamp display Dragging anchor monitoring Own ship track display
Route monitoring	Safety contour cross monitoring Spot depth monitoring Monitoring obstacle and approaching obstruction and prohibited area (S-57/S-63/C-Map) Cross track monitoring Next WP arrival monitoring Off-course monitoring
Other ship monitoring	Monitoring by TT display (up to 200 targets) Monitoring by AIS display (up to 1000 targets)
User Map	
Number of points displayed	100,000 points (marks, lines)
Export	Possible (USB memory)
Other functions	
Wave analysis function (optional)	Wave height, wave length, wave cycle, and wave direction can be displayed
Data display functions	Conning data block display
Self-diagnosis function	Available
Remote maintenance function	Available
Playback	Playback data (up to 3 months)
Logbook function	Logbook recorded data (up to 3 months)
Radar overlay function	Available (option)
TCS(Track Control System)	Available (option)
Upgrading to multi-function display	Possible

Receivable signals (i)	
Ship heading	THS > HDT (over 40Hz)
Course	GGA > RMC > RMA > GNS > GLL
Geodetic positioning system	DTM
Date information	ZDA
COG/SOG	RMC > RMA > VTG
Ship speed through water	VBW
Turning speed	ROT
Water depth	DPT>DBS>DBT>DBK
Wind direction/wind speed	MWV>MWD
Air temperature	MTA > MDA
Water temperature	MTW > MDA
Atmospheric pressure	MMB > MDA
Humidity	MHU > MDA
AIS	VDM, VDO
TT data	TTM, TLL, TTD, TLB
AIS target data	TTM, TLL, TTD, TLB
Alert	ACK, ALR
Transmittable signals	
Own ship data	OSD
Watch Timer Reset	EVE
TT data	TTM, TLL, TTD, TLB
Remote maintenance data	JRC format
Alert	ACK, ALR
Route information	ECDIS information notification (PJRC,EIF00/PJRC,EIS00/WPL)
Auto pilot information	ECDIS information notification (PJRC,EIF00)
Visual range	
Visual range	1.05m from the center of display

- ii. The measuring precision of the speed sensor complies with IMO Resolution MSC.96(72).
The measuring precision of the GPS sensor complies with IMO Resolution MSC.112(73).

24.38 Target Tracking

FUNCTIONAL SPECIFICATION	
Acquisition	
Acquisition Mode	Manual/AUTO (AUTO mode uses Auto-acquisition Zone)
Manual Cancellation	Any one Target or All targets at once
Acquisition Range	0.1NM to 32NM (Available in all range scale)
Tracking	
Number of Target	100 targets
Tracking Range	0.1NM to 32NM (Available in all range scale)
View	
Motion mode	TM (True Motion) / RM (Relative Motion)
Azimuth mode	North UP, Head UP, Course UP, Waypoint UP
Vector mode	True / Relative Display
Vector Length	Variable, 1 to 120 min. (1min. step)
Past Position	True / Relative Display Number of Dots --- 10 points Display Interval Time --- 0.5 / 1 / 2 / 4 min Display range: 0.1NM, 0.2NM, 0.5NM, and 1NM
Time to Display Vector	within 1 minute
Time to Stabilize Vector	within 3 minutes
Alarm	
Auto-acquisition Zone (AZ)	2 (sector)
Setting range	0.5NM to 32NM
Alarm Indication	Symbol on Display, Visible/Audible Alarm
Safe Limits (CPA/TCPA)	
CPA LIMIT	0.1 to 9.9NM
TCPA LIMIT	1 to 99 minutes
Conditions	
Safe Target	CPA > CPA Limit 0 > TCPA TCPA > TCPA Limit
Dangerous Target	CPA ≤ CPA Limit 0 ≤ TCPA ≤ TCPA Limit
Lost Target	Symbol on Display, Visible/Audible Alarm
Alert Indication	
Safe Target	Color: White, Alert: OFF, Buzzer: OFF
Dangerous Target	Color: Red, Alert: ON, Buzzer: ON
Data Indication	
Target Data	Simultaneous display for 10 targets (26-inch screen)/4 targets (19-inch screen) True Bearing, Range, True Course, True Speed, CPA, TCPA, BCR, BCT
Own Ship's Data	Course and Speed
Trial Maneuver	
Manual Setting	
Trial Course	0° to 359.9°
Trial Speed	0 to 100 kn
Accuracy of Display	Complied with IMO Requirements
System Failure	Visible / Audible Alarm
Speed Input	Manual / AUTO (LOG)

24.39 AIS

FUNCTIONAL SPECIFICATION	
Activation	
Acquisition Mode	Manual/AUTO (AUTO mode uses Auto-acquisition Zone)
Manual Cancellation	Any one Target
View	
Number of Target (Sleeping and activated)	500 target (Option: 1000)
Past Position	True / Relative Display Number of Dots --- 10 points Display Interval Time --- 0.5 / 1 / 2 / 4 min Display Interval Distance --- 0.1 / 0.2 / 0.5 / 1 NM
Message	Broadcast Message, Addressed Message
Motion mode	TM (True Motion) / RM (Relative Motion)
Azimuth mode	North UP, Head UP, Course UP, Waypoint UP
Vector mode	True / Relative Display
Vector Length	Variable, 1 to 120 min. (1min. step)
Alarm	
Auto-acquisition Zone (AZ)	2 (sector)
Setting range	0.5NM to 32NM
Alarm Indication	Symbol on Display, Visible/Audible Alarm
Safe Limits (CPA/TCPA)	
CPA LIMIT	0.1 to 9.9NM
TCPA LIMIT	1 to 99 minutes
Conditions	
Safe Target	CPA > CPA Limit 0 > TCPA TCPA > TCPA Limit
Dangerous Target	CPA ≤ CPA Limit 0 ≤ TCPA ≤ TCPA Limit
Lost Target	Symbol on Display, Visible/Audible Alarm
Alert Indication	
Safe Target	Color: White, Alert: OFF, Buzzer: OFF
Dangerous Target	Color: Red, Alert: ON, Buzzer: ON
Data Indication	
Target Data	Simultaneous/consecutive display for 5 targets (26-inch screen) 2 targets (19-inch screen)
Simple Display	Ship's name, Call sign, MMSI, Course, Speed, CPA and TCPA
Details Display	Ship's name, Call sign, MMSI, Course, Speed, CPA, TCPA, Bearing, Range, Ship's Heading Bearing, Rate of turn, Latitude, Longitude, Destination and Navigation Status
Own Ship's Data	The ship's name, Call sign, MMSI, Course, Speed, Ship's heading bearing, Rate of turn, Latitude, Longitude, Destination, and Navigation status of own ship
Trial Maneuver	
Manual Setting	
Trial Course	0° to 359.9°
Trial Speed	0 to 100 kn
Accuracy of Display	Complied with IMO Requirements
System Failure	Visible / Audible Alarm
Speed Input	AUTO (LOG)

24.40 Central Processing Unit

GENERAL SPECIFICATION	NDC-1590: Central Processing Unit
CPU	Intel Core i5 2515E 2.5GHz
Main Memory	2GB (DDR3)
JRC ASIC	Yes
Mechanical	
Dimension	Width 400 × Depth 240 × Height 125 (mm)
Mass	5.6kg
FAN	1
Environment	
Operational Temperature	-15°C to +55°C
Operational Humidity	40°C RH 93%
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMC	IEC60945-Ed4.0
Ingress Protection Rating	IP20
Interfaces	
DVI-D	1
VGA	1 (Slave output as DVI-D)
IEC61162-1	2 input (GPS and LOG)
IEC61162-2	2 input (AIS and THD)
IEC61162-450	2 (IEEE802.3u/IEEE802.3ab compliance (100BASE-TX/1000BASE-T))
Dry Contact Output	2 (Power Fail and Watch Timer Reset)
Normally Close	Power Fail (32V 0.8A MAX)
Normally Open	Watch Timer Reset (32V 0.8A MAX)
Operation Unit	1 (5m max)
Extended Operation Unit	1 (up to 30m)
USB I/F	3 (1 for MNU, Others are general purpose)
RADAR I/F	1 input for scanner unit, 1 output for other equipment
Power	Connecting with NBD-913

24.41 Power Supply Unit

GENERAL SPECIFICATION		NBD-913: Power Supply Unit	
AC Input			
Voltage	100 to 115VAC, 50/60Hz 1ϕ 220 to 240VAC, 50/60Hz 1ϕ		
Voltage Range	85 to 264VAC		
Overvoltage Protection	295VAC ±2V		
Input Current	Max 6.8A(100VAC) / 3.4A(220VAC)		
Over current Protection	YES		
DC Input			
Voltage	24VDC		
Voltage Range	21.6 to 31.2VDC		
Overvoltage Protection	42V		
Input Current	Max 16A		
Over current Protection	YES		
Rated Output			
Output 1	12.0V ±0.24V	2A	
Output 2A (for CCU)	24.0V ±0.48V	4A	
Output 2B (for MNU)	24.0V ±0.48V	6A	
Output 3 (for TXRX)	48.0V ±0.96V	4A	
Mechanical			
Dimension	Width 400 × Depth 240 × Height 85 (mm)		
Mass	4.2kg		
FAN	2		
Environment			
Operational Temperature	-15°C to +55°C		
Operational Humidity	40°C RH 93%		
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes		
EMC	IEC60945-Ed4.0		
Ingress Protection Rating	IP20		

24.42 Trackball Operation Unit

GENERAL SPECIFICATION	NCE-5605: Trackball Operation Unit
Pointing Device	2inch Trackball
Click Button	2-buttons (Left and Right)
USB I/F	1
Speaker	1
Vibration	1
Keys	SILENCE/ALERT ACK/ZOOM IN/ZOOM OUT
Knob	Multi Function Knob
Cable Length	Up to 5m (Up to 30m when using the extended option)
Mechanical	
Dimension	Width 130 × Depth 210 × Height 177 (mm)
Mass	1.3kg
Environment	
Operational Temperature	-15°C to +55°C
Operational Humidity	40°C RH 93%
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMC	IEC60945-Ed4.0
Ingress Protection Rating	Front : IP22

24.43 19inch Display

GENERAL SPECIFICATION	NWZ-207: Display
Screen Size	19inch
Aspect Ratio	5:4
Full Resolution	1280×1024
Supported format	1280×1024, 1280×960, 1024×768, 800×600, 640×480, 720×400
Dot Pitch	0.294mm
Viewing Area	376.32mm × 301.06mm
Display Colors	16.77 million colors
Contrast Ratio	2000:1
Viewing Angles (H / V)	178° / 178°
Back Light	LED
Brightness	500cd/m2 Type
Digital Scanning Frequency (H / V)	Horizon 30kHz to 80kHz Vertical 56Hz to 75Hz
DVI-D input	1
VGA input	1
VGA output	N/A
USB I/F	1 (For Touch Panel)
Power	21.6 to 31.2VDC
Overvoltage Protection	N/A
DC Reverse Connection Protection	Self Return Type
Cables	Up to 5m
Touch Panel	Optional
Glass Bonding	Standard
Mechanical	
Dimension	Width 429 × Depth 76 × Height 382 (mm)
Mass	6.0kg
Fan	1
Glass	Tempered Glass + AR Coating
Environment	
Operational Temperature	-15°C to +55°C
Operational Humidity	40°C RH 93%
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMS	IEC60945-Ed4.0
Ingress Protection Rating	Front:IP65 Back:IP22

24.44 26inch Display

GENERAL SPECIFICATION	NWZ-208: Display
Screen Size	26inch
Aspect Ratio	16:10
Full Resolution	1920×1200RB
Supported format	1920×1200RB, 1680×1050, 1680×1050RB, 1600×1200, 1600×1200RB, 1280×1024, 1024×768, 800×600, 640×480
Dot Pitch	0.2865mm
Viewing Area	550.08mm × 343.8 mm
Display Colors	16.77 million colors
Contrast Ratio	1500:1
Viewing Angles (H / V)	176° / 176°
Back Light	LED
Brightness	400cd/m ² Type
Digital Scanning Frequency (H / V)	Horizontal 30kHz to 75kHz Vertical 56Hz to 75Hz
DVI-D input	1
VGA input	1
VGA output	1
USB I/F	1 (For Touch Panel)
Power	21.6 to 31.2VDC 85 to 265VAC 50/60Hz
Overvoltage Protection	N/A
DC Reverse Connection Protection	Self-Return Type
Cables	Up to 5m
Touch Panel	Optional
Glass Bonding	Optional
Mechanical	
Dimension	Width 624 × Depth 85 × Height 456 (mm)
Mass	16kg
Fan	2
Glass	Tempered Glass + AR Coating
Environment	
Operational Temperature	-15°C to +55°C
Operational Humidity	40°C RH 93%
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMC	IEC60945-Ed4.0
Ingress Protection Rating	Front: IP65 Back: IP22

24.45 Keyboard OPU

GENERAL SPECIFICATION	NCE-5625: Keyboard Operation Unit
PC Keyboard	
Layout	QWERTY
Pitch	15mm
Stroke	2mm
Dedicated Keys	
Keys	HOME, TX/STBY, PI, DISP OFF, AZ, PANEL, DAY/NIGHT, MOB, USER1, USER2
Knobs	EBL, VRM, SEA, RAIN, GAIN
Mechanical	
Dimension	Width 270 × Depth 210 × Height 30 (mm)
Mass	0.8kg
Environment	
Operational Temperature	-15°C to +55°C
Operational Humidity	40°C RH 93%
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMC	IEC60945-Ed4.0
Ingress Protection Rating	Front : IP22

24.46 26inch Display Unit Mount Kit

GENERAL SPECIFICATION	CWA-246: 26inch Display Unit Mount Kit
Mechanical	
Dimension	Width 680 × Depth 718 × Height 1100 (mm)
Mass	APPROX. 65kg
Environment	
Operational Temperature	-15°C to +55°C
Operational Humidity	40°C RH 93%
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMC	IEC60945-Ed4.0
Ingress Protection Rating	Front : IP22

24.47 19inch Display Unit Mount Kit

GENERAL SPECIFICATION	CWA-245: 19inch DISPLAY UNIT MOUNT KIT
Structure	
Dimension	Width 580 × Depth 718 × Height 1100 (mm)
Mass	Approx. 55kg
Environment	
Operational Temperature	-15°C to +55°C
Operational Humidity	40°C RH 93%
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMC	IEC60945-Ed4.0
Ingress Protection Rating	Front: IP22

24.48 Sensor LAN Switch Unit

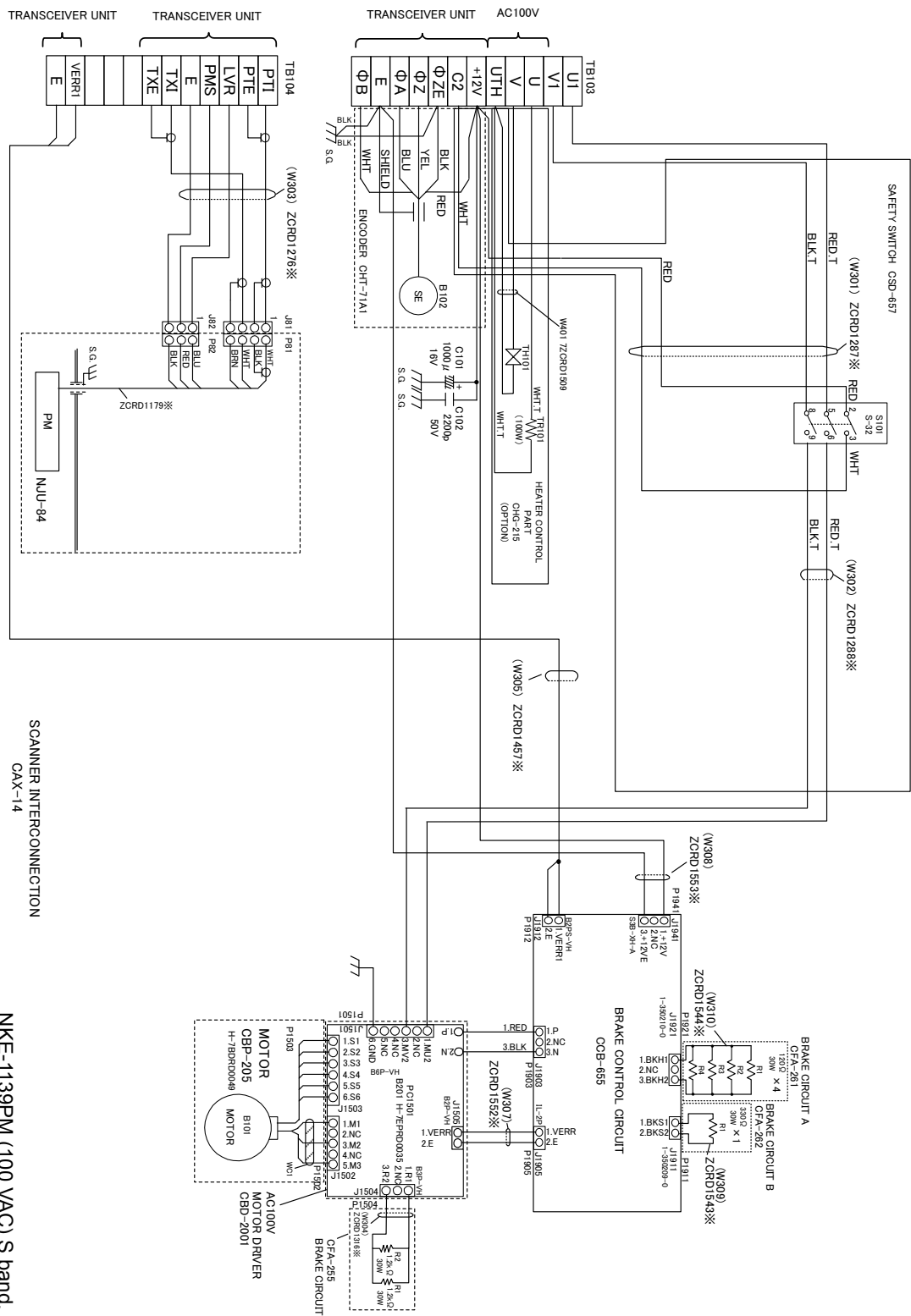
GENERAL SPECIFICATION	NQA-2443: Sensor LAN switch unit
Technology	
Standards	IEEE802.3, 802.3u, 802.3x
Processing type	Store and Forward, with IEEE802.3 full duplex, back pressure flow control
Forward and Filtering Rate	148810 pps
Latency	Less than 5us
Interface	
Number of ports	16
RJ45	10/100BASE-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection
LED	Power, Fault, Speed
Power	
Input Voltage	12 to 48 VDC, redundant inputs
Input Current	0.34A max
Over Current Protection	1.6A
Reverse Polarity Protection	Yes
Mechanical	
Dimension	Width 53.6 × Depth 135 × Height 105 (mm)
Mass	1.5kg
Environment	
Operational Temperature	-15°C to +55°C
Operational Humidity	40°C RH 93%
Vibration	Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMC	IEC60945-Ed4.0
Ingress Protection Rating	Front : IP30

24.49 Junction Box

GENERAL SPECIFICATION		NQE-1143: Junction Box
Mechanical		
Dimension		Width 400 × Depth 86 × Height 261.5 (mm)
Mass		3.8kg
Environment		
Operational Temperature		-15°C to +55°C
Operational Humidity		40°C RH 93%
Vibration		Sweep 2Hz to 13.2Hz at ± 1mm, 13.2Hz to 100Hz at 7m/s ² and for 2h on each resonance, otherwise 2h at 30Hz in all three axes
EMC		IEC60945-Ed4.0
Ingress Protection Rating		Front : IP20
Power		
Input Voltage		21.6 to 31.2 VDC
Power Consumption		48W MAX
Over Current Protection		3A×2, 15A×1 Mini Blade Fuse
Reverse Polarity Protection		Yes
FUNCTIONAL SPECIFICATION		CMH-2370: Serial LAN Interface Circuit
Interface		
IEC61162-1		8 input / 8 output
IEC61162-2		2 input / 2 output
IEC61162-450		1 (100BASE-TX)
Dry Contact Output (N.C/N.O selectable)		8 (32V, 0.8A sink MAX)
Dry Contact Input		8 (5V, 50mA source MAX)
Ingress Protection Rating		Front : IP20
FUNCTIONAL SPECIFICATION		CMJ-554: Gyro Interface Circuit
GYRO		
STEP		22 to 70 VDC
SYNC		24 to 115VAC, 50/60/400Hz
RATIO		36X/90X/180X/360X
OUTPUT		THS (50Hz)
LOG		
PULSE		Dry contact: 30V(max), 50mA(max) Voltage signal: 0-50V (threshold level is 2V)
RATIO		100/200/400/800 [P/NM]
OUTPUT		VBW (1Hz), VLW (0.1Hz)
FUNCTIONAL SPECIFICATION		CMJ-556: Analog Option Circuit
Interface		
Isolated Input		4
Input Signal Range		-10 to 10 VDC or 4 to 20 mA
FUNCTIONAL SPECIFICATION		CQD-2286: Radar Interface Circuit
Interface		
Scanner Input		1
Slave Video output		1
radar video		0 to -2.6 VDC, output with 50 ohm termination, log scale: 50dB/V
trigger		Positive, 4V, 1us to 4.4us, output with 50 ohm termination
BP (:Bearing Pulse)		2048 pulse/round, open-collector output with 5V-1k ohm pull-up
BZ (:Bearing Zero)		1 pulse/round, open-collector output with 5V-1k ohm pull-up
ISW		YES

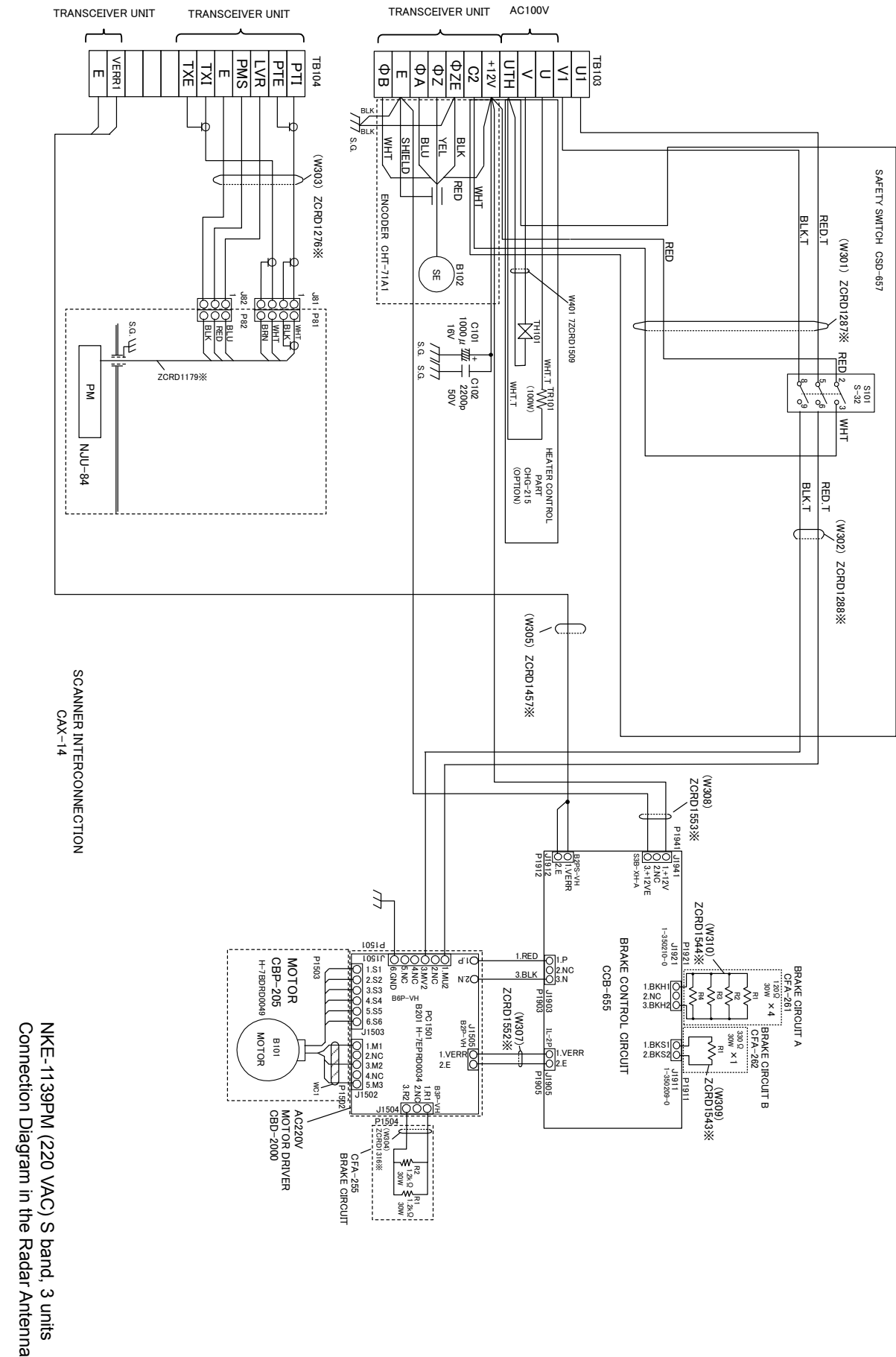
Appendix A Radar Antenna Block Diagrams

A.1 NKE-1139 (110 VAC)

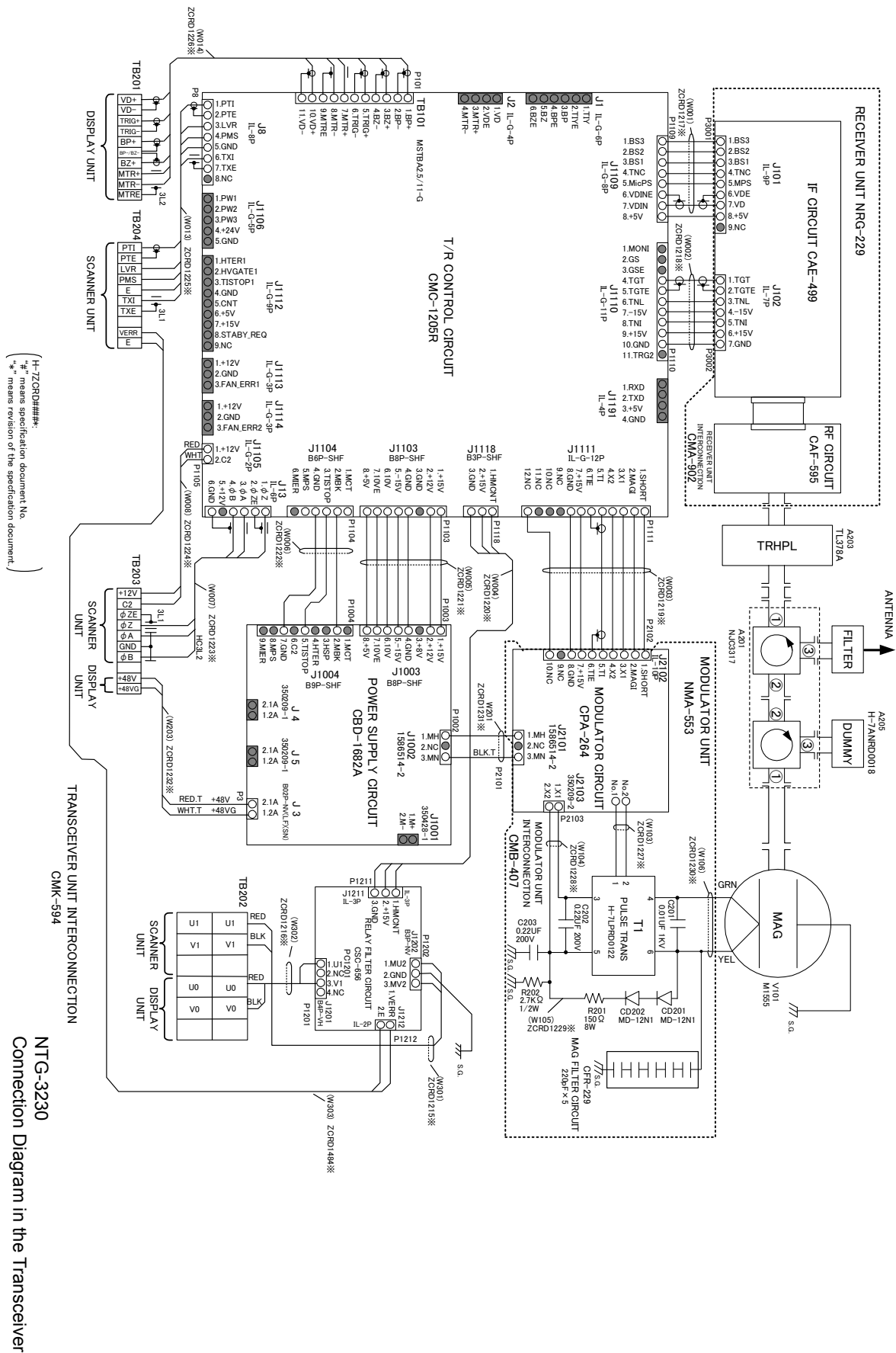


NKE-1139PM (100 VAC) S band, 3 units
Connection Diagram in the Radar Antenna

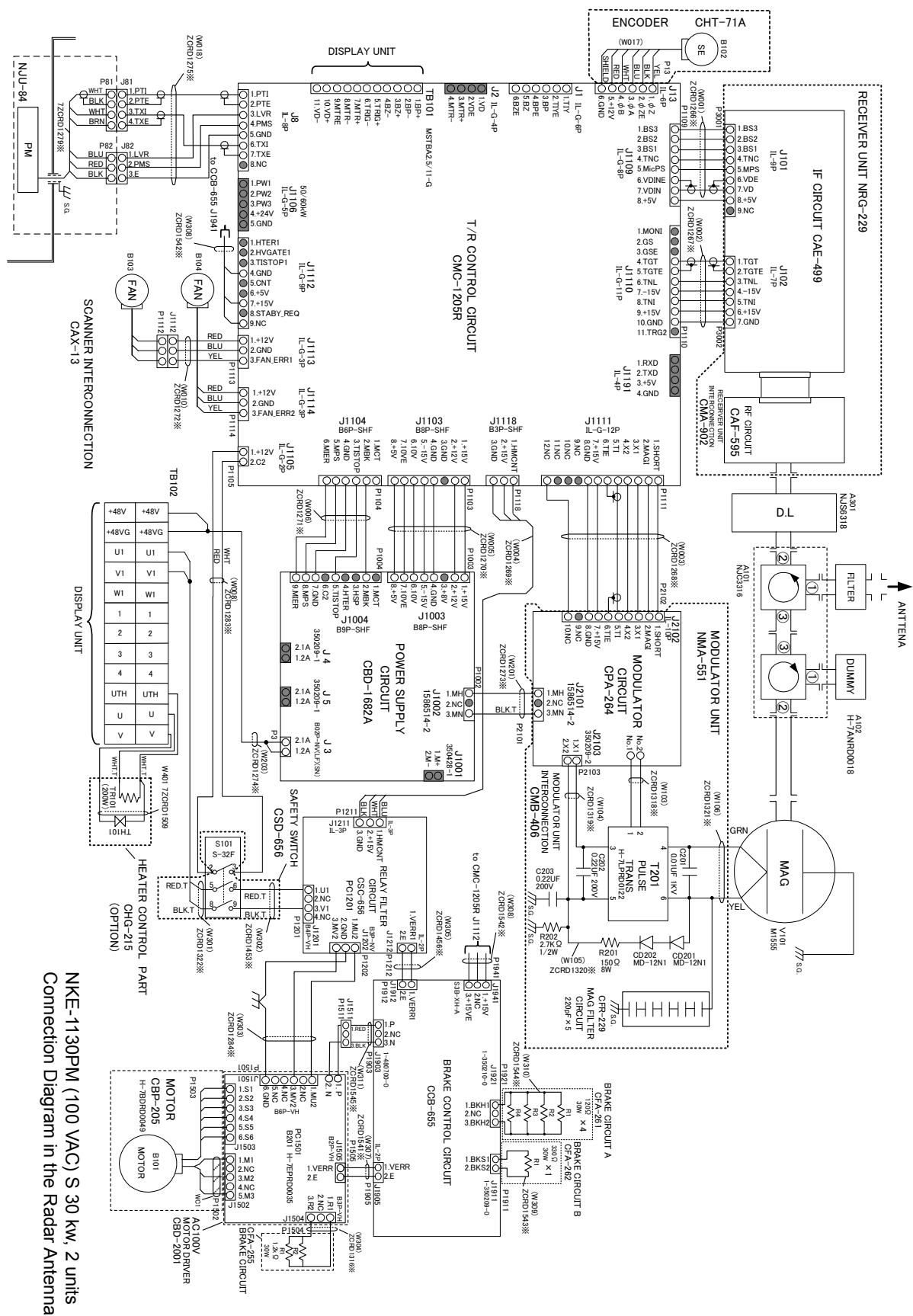
A.2 NKE-1139 (220 VAC)



A.3 NTG-3230



A-4



APP A

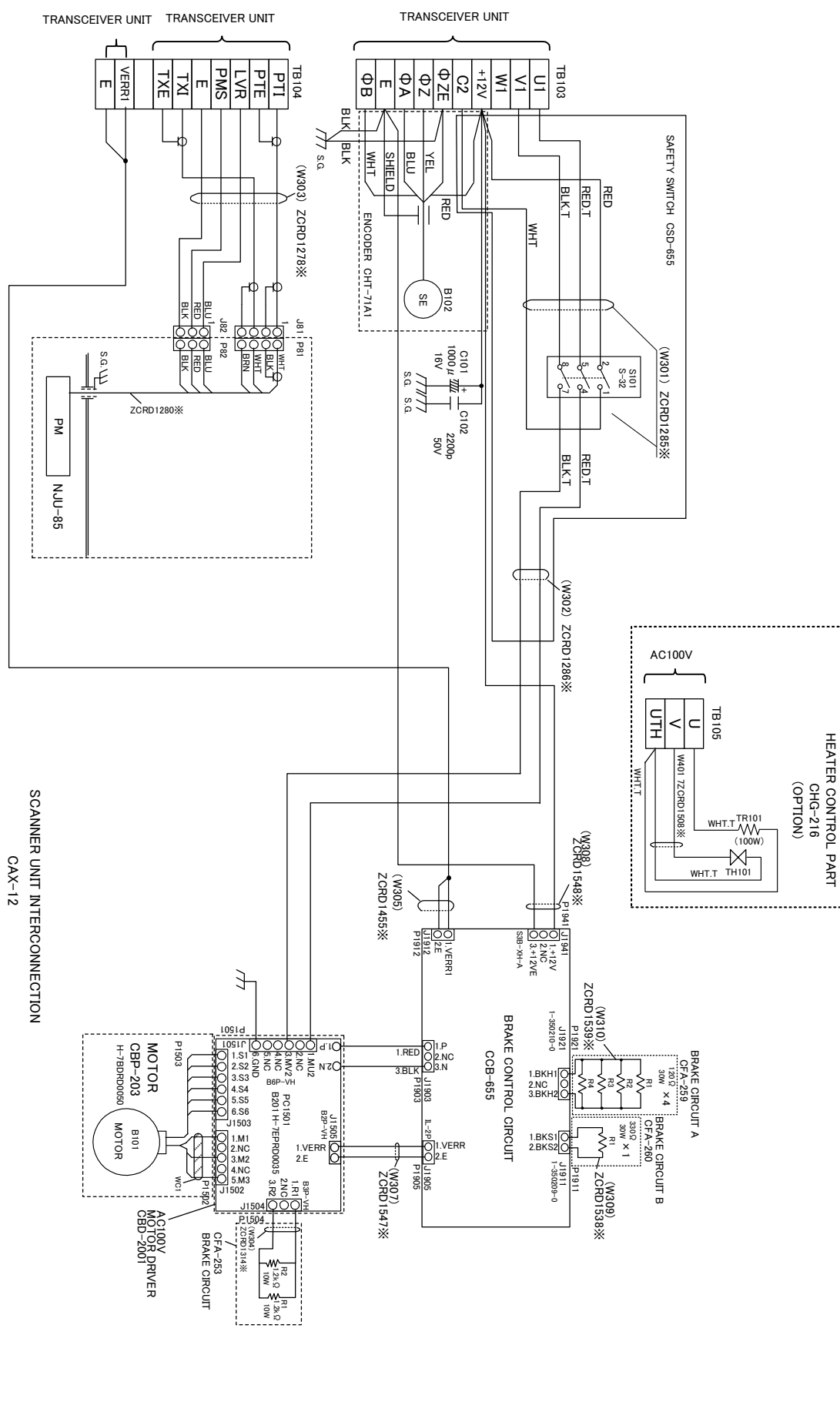


A-6





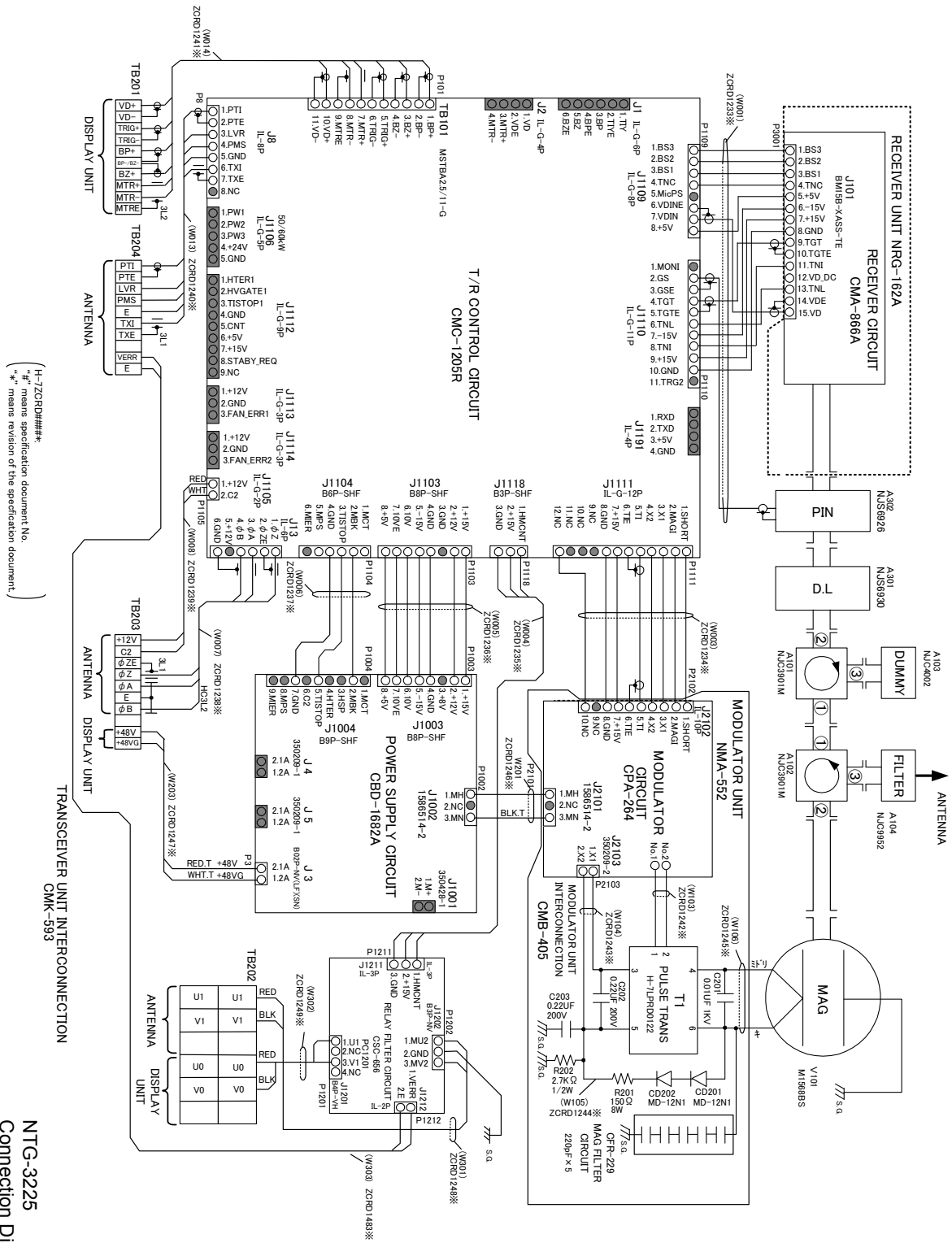
A-8



APP A



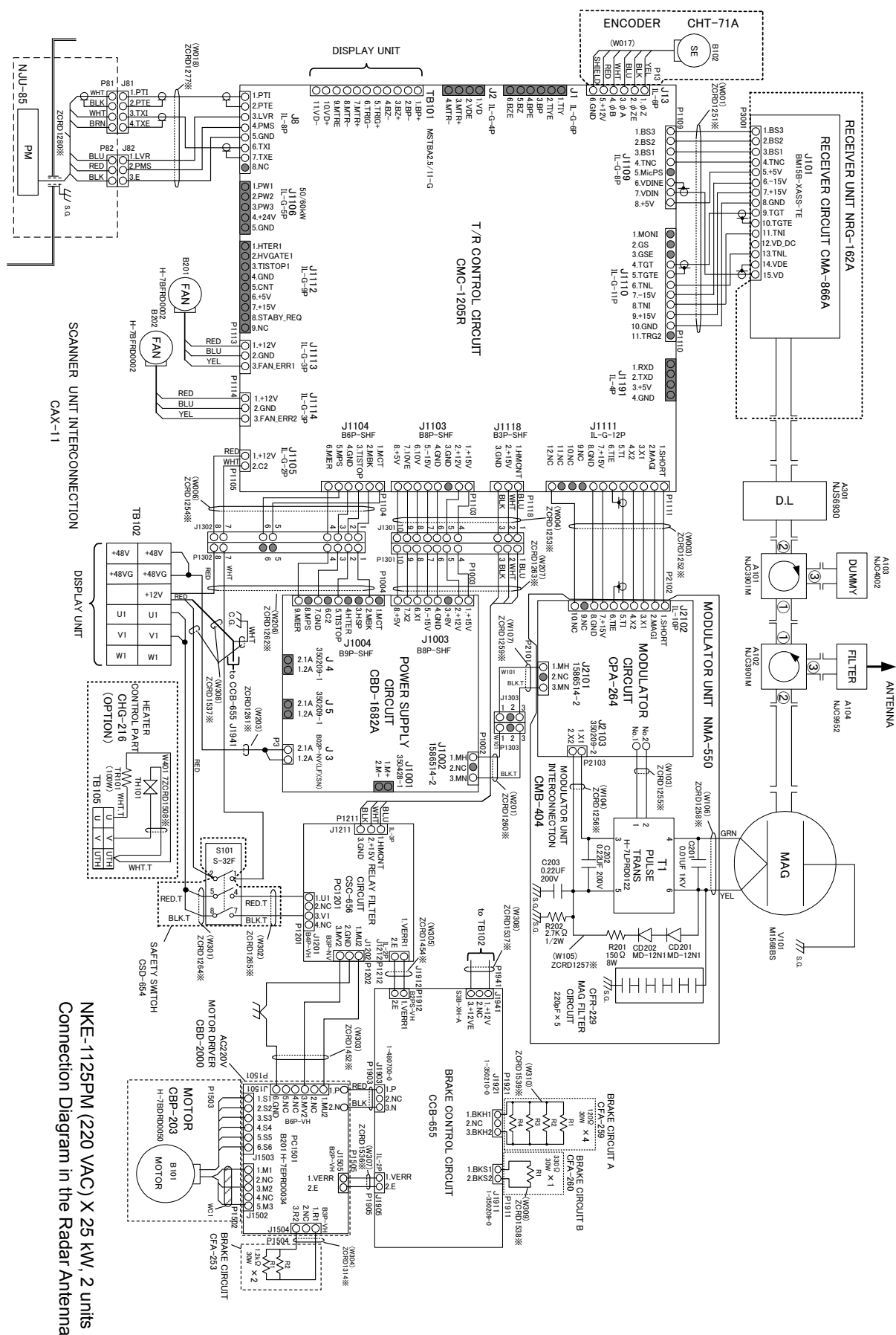
A.10 NTG-3225



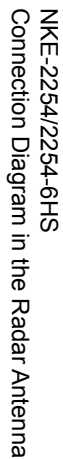
APP A



A-12



APP A



A-14

