EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1051

DATE: MAY 1, 2021

PROJECT MP0425

The following classification changes will be effected by this Notice of Changes:

Action	**Subclass**	**Group(s)**
SCHEME:		
Titles Changed:	G01R	SUBCLASS
	G01R	1/02, 1/04, 1/06, 1/067, 1/07, 1/073, 1/10, 1/16, 1/18, 1/20, 1/22, 1/36, 1/38, 1/44
	G01R	5/00, 5/22, 5/28
	G01R	11/00, 11/02, 11/12, 11/24, 11/25, 11/36, 11/56
	G01R	13/00, 13/02, 13/20, 13/22, 13/26, 13/28, 13/34, 13/36, 13/38
	G01R	15/00, 15/06, 15/14, 15/16, 15/20
	G01R	17/10, 17/20
	G01R	19/00, 19/03, 19/12, 19/145, 19/15, 19/155, 19/165, 19/18, 19/20, 19/25, 19/30, 19/32
	G01R	21/08, 21/127
	G01R	22/00
	G01R	23/00, 23/02, 23/09, 23/14, 23/16, 23/173, 23/20
	G01R	25/00, 25/08
	G01R	27/00, 27/22, 27/28
	G01R	29/02, 29/08, 29/20, 29/24, 29/26
	G01R	31/319
	G01R	33/02, 33/025, 33/032, 33/035, 33/038, 33/06, 33/12, 33/20, 33/26, 33/34, 33/381, 33/3815, 33/383, 33/387, 33/42, 33/485, 33/54, 33/56, 33/64
	G01R	35/00
Notes Modified:	G01R	SUBCLASS
DEFINITIONS:		
Definitions New:	G01R	1/06, 1/07, 1/10, 1/20, 1/22, 1/38, 1/44, 5/22, 5/28, 11/12, 11/36, 13/26, 13/36, 15/06, 15/14, 17/10, 17/20, 19/03, 19/12, 19/145, 19/18, 19/20, 19/30, 19/32, 31/319, 33/038, 33/06, 33/26, 33/34, 33/381, 33/3815, 33/383, 33/387, 33/42, 33/56, 33/64
Definitions Modified:	G01R	Subclass

CPC NOTICE OF CHANGES 1051

DATE: MAY 1, 2021

PROJECT MP0425

Action	**Subclass**	**Group(s)**
	G01R	1/02, 1/04, 1/067, 1/18, 5/00, 11/00, 11/02, 11/24, 11/25, 13/00, 13/02, 13/20, 13/22, 13/28, 13/34, 13/38, 15/00, 15/16, 15/20, 19/00, 19/165, 19/25, 21/08, 21/127, 22/00, 23/00, 23/02, 23/09, 23/14, 23/16, 23/173, 23/20, 25/00, 25/08, 27/00, 27/18, 27/20, 27/22, 29/02, 29/04, 29/06, 29/08, 29/12, 29/14, 29/16, 29/18, 29/20, 29/22, 29/24, 29/26, 33/02, 33/025, 33/032, 33/035, 33/12, 33/20, 35/00

No other subclasses/groups are impacted by this Notice of Changes.

This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES
   - ☒ A. New, Modified or Deleted Group(s)
   - ☐ B. New, Modified or Deleted Warning(s)
   - ☐ C. New, Modified or Deleted Note(s)
   - ☐ D. New, Modified or Deleted Guidance Heading(s)
2. DEFINITIONS
   - ☒ A. New or Modified Definitions (Full definition template)
   - ☒ B. Modified or Deleted Definitions (Definitions Quick Fix)
3. ☐ REVISION CONCORDANCE LIST (RCL)
4. ☐ CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
5. ☐ CHANGES TO THE CROSS-REFERENCE LIST (CRL)

CPC NOTICE OF CHANGES 1051

DATE: MAY 1, 2021

PROJECT MP0425

1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS G01R- MEASURING ELECTRIC VARIABLES; MEASURING MAGNETIC VARIABLES
(measuring physical variables of any kind by conversion into electric variables, see Note (4) following the title of class G01; measuring diffusion of ions in an electric field, e.g. electrophoresis, electro-osmosis G01N; investigating non-electric or non-magnetic properties of materials by using electric or magnetic methods G01N; indicating correct tuning of resonant circuits H03J 3/12; monitoring electronic pulse counters H03K 21/40; monitoring operation of communication systems H04)

Type*	**Symbol**	**Indent Level Number of dots (e.g. 0, 1, 2)**	**Title "CPC only" text should normally be enclosed in {curly brackets}****	**Transferred to#**
M	G01R	Subclass	MEASURING ELECTRIC VARIABLES; MEASURING MAGNETIC VARIABLES (indicating correct tuning of resonant circuits H03J 3/12)	
M	G01R 1/02	1	General constructional details	
M	G01R 1/04	2	Housings; Supporting members; Arrangements of terminals	
M	G01R 1/06	2	Measuring leads; Measuring probes (G01R 19/145, G01R 19/165 take precedence)	
M	G01R 1/067	3	Measuring probes	
M	G01R 1/07	4	Non contact-making probes	
M	G01R 1/073	4	Multiple probes	
M	G01R 1/10	2	Arrangements of bearings	
M	G01R 1/16	2	Magnets	
M	G01R 1/18	2	Screening arrangements against electric or magnetic fields, e.g. against earth's field	
M	G01R 1/20	1	Modifications of basic electric elements for use in electric measuring instruments; Structural combinations of such elements with such instruments	
M	G01R 1/22	2	Tong testers acting as secondary windings of current transformers	
M	G01R 1/36	1	Overload-protection arrangements or circuits for electric measuring instruments	
M	G01R 1/38	1	Arrangements for altering the indicating characteristic, e.g. by modifying the air gap	
M	G01R 1/44	1	Modifications of instruments for temperature compensation	

Type*	**Symbol**	**Indent Level Number of dots (e.g. 0, 1, 2)**	**Title "CPC only" text should normally be enclosed in {curly brackets}****	**Transferred to#**
M	G01R 5/00	0	Instruments for converting a single current or a single voltage into a mechanical displacement	
M	G01R 5/22	1	Thermoelectric instruments	
M	G01R 5/28	1	Electrostatic instruments	
M	G01R 11/00	0	Electromechanical arrangements for measuring time integral of electric power or current, e.g. of consumption (monitoring electric consumption of electrically-propelled vehicles B60L3/00)	
M	G01R 11/02	1	Constructional details	
M	G01R 11/12	2	Arrangements of bearings	
M	G01R 11/24	2	Arrangements for avoiding or indicating fraudulent use	
M	G01R 11/25	2	Arrangements for indicating or signalling faults	
M	G01R 11/36	1	Induction meters, e.g. Ferraris meters	
M	G01R 11/56	1	Special tariff meters	
M	G01R 13/00	0	Arrangements for displaying electric variables or waveforms	
M	G01R 13/02	1	for displaying measured electric variables in digital form	
M	G01R 13/20	1	Cathode-ray oscilloscopes	
M	G01R 13/22	2	Circuits therefor	
M	G01R 13/26	3	Circuits for controlling the intensity of the electron beam {or the colour of the display}	
M	G01R 13/28	3	Circuits for simultaneous or sequential presentation of more than one variable	
M	G01R 13/34	3	Circuits for representing a single waveform by sampling, e.g. for very high frequencies	
M	G01R 13/36	1	using length of glow discharge, e.g. glowlight oscilloscopes	
M	G01R 13/38	1	using the steady or oscillatory displacement of a light beam by an electromechanical measuring system	
M	G01R 15/00	0	Details of measuring arrangements of the types provided for in groups G01R 17/00 - G01R 29/00, G01R 33/00 - G01R 33/26 or G01R 35/00	
M	G01R 15/06	2	having reactive components, e.g. capacitive transformer	
M	G01R 15/14	1	Adaptations providing voltage or current isolation, e.g. for high-voltage or high-current networks	
M	G01R 15/16	2	using capacitive devices	

Type*	**Symbol**	**Indent Level Number of dots (e.g. 0, 1, 2)**	**Title "CPC only" text should normally be enclosed in {curly brackets}****	**Transferred to#**
M	G01R 15/20	2	using galvano-magnetic devices, e.g. Hall-effect devices {, i.e. measuring a magnetic field via the interaction between a current and a magnetic field, e.g. magneto resistive or Hall effect devices}	
M	G01R 17/10	1	AC or DC measuring bridges	
M	G01R 17/20	1	AC or DC potentiometric measuring arrangements	
M	G01R 19/00	0	Arrangements for measuring currents or voltages or for indicating presence or sign thereof (G01R 5/00 takes precedence; for measuring bioelectric currents or voltages A61B 5/24)	
M	G01R 19/03	2	using thermoconverters	
M	G01R 19/12	1	Measuring rate of change	
M	G01R 19/145	1	Indicating the presence of current or voltage	
M	G01R 19/15	2	Indicating the presence of current	
M	G01R 19/155	2	Indicating the presence of voltage	
M	G01R 19/165	1	Indicating that current or voltage is either above or below a predetermined value or within or outside a predetermined range of values	
M	G01R 19/18	1	using conversion of DC into AC, e.g. with choppers	
M	G01R 19/20	2	using transductors {, i.e. a magnetic core transducer the saturation of which is cyclically reversed by an AC source on the secondary side}	
M	G01R 19/25	1	using digital measurement techniques	
M	G01R 19/30	1	Measuring the maximum or the minimum value of current or voltage reached in a time interval (G01R 19/04 takes precedence)	
M	G01R 19/32	1	Compensating for temperature change	
M	G01R 21/08	1	by using galvanomagnetic-effect devices, e.g. Hall-effect devices	
M	G01R 21/127	1	by using pulse modulation (G01R 21/133 takes precedence)	
M	G01R 22/00	0	Arrangements for measuring time integral of electric power or current, e.g. electricity meters	
M	G01R 23/00	0	Arrangements for measuring frequencies; Arrangements for analysing frequency spectra	

Type*	**Symbol**	**Indent Level Number of dots (e.g. 0, 1, 2)**	**Title "CPC only" text should normally be enclosed in {curly brackets}****	**Transferred to#**
M	G01R 23/02	1	Arrangements for measuring frequency, e.g. pulse repetition rate; Arrangements for measuring period of current or voltage	
M	G01R 23/09	3	using analogue integrators, e.g. capacitors establishing a mean value by balance of input signals and defined discharge signals or leakage	
M	G01R 23/14	2	by heterodyning; by beat-frequency comparison	
M	G01R 23/16	1	Spectrum analysis; Fourier analysis	
M	G01R 23/173	2	Wobbulating devices similar to swept panoramic receivers	
M	G01R 23/20	2	Measurement of non-linear distortion	
M	G01R 25/00	0	Arrangements for measuring phase angle between a voltage and a current or between voltages or currents	
M	G01R 25/08	1	by counting of standard pulses	
M	G01R 27/00	0	Arrangements for measuring resistance, reactance, impedance, or electric characteristics derived therefrom	
M	G01R 27/22	2	Measuring resistance of fluids	
M	G01R 27/28	1	Measuring attenuation, gain, phase shift or derived characteristics of electric four pole networks, i.e. two-port networks; Measuring transient response (in line transmission systems H04B 3/46)	
M	G01R 29/02	1	Measuring characteristics of individual pulses, e.g. deviation from pulse flatness, rise time or duration	
M	G01R 29/08	1	Measuring electromagnetic field characteristics	
M	G01R 29/20	1	Measuring number of turns; Measuring transformation ratio or coupling factor of windings	
M	G01R 29/24	1	Arrangements for measuring quantities of charge	
M	G01R 29/26	1	Measuring noise figure; Measuring signal-to-noise ratio	
M	G01R 31/319	4	Tester hardware, i.e. output processing circuits	
M	G01R 33/02	1	Measuring direction or magnitude of magnetic fields or magnetic flux (G01R 33/20 takes precedence)	
M	G01R 33/025	2	Compensating stray fields {(G01R 33/0017 takes precedence)}	
M	G01R 33/032	2	using magneto-optic devices, e.g. Faraday {or Cotton-Mouton effect}	

Type*	**Symbol**	**Indent Level Number of dots (e.g. 0, 1, 2)**	**Title "CPC only" text should normally be enclosed in {curly brackets}****	**Transferred to#**
M	G01R 33/035	2	using superconductive devices	
M	G01R 33/038	2	using permanent magnets, e.g. balances, torsion devices	
M	G01R 33/06	2	using galvano-magnetic devices	
M	G01R 33/12	1	Measuring magnetic properties of articles or specimens of solids or fluids (involving magnetic resonance G01R 33/20)	
M	G01R 33/20	1	involving magnetic resonance (medical aspects A61B 5/055; magnetic resonance gyrometers G01C 19/60)	
M	G01R 33/26	3	using optical pumping	
M	G01R 33/34	4	Constructional details, e.g. resonators {, specially adapted to MR}	
M	G01R 33/381	4	using electromagnets	
M	G01R 33/3815	5	with superconducting coils, e.g. power supply therefor	
M	G01R 33/383	4	using permanent magnets	
M	G01R 33/387	4	Compensation of inhomogeneities	
M	G01R 33/42	3	Screening	
M	G01R 33/485	5	based on chemical shift information {[CSI] or spectroscopic imaging, e.g. to acquire the spatial distributions of metabolites}	
M	G01R 33/54	4	Signal processing systems, e.g. using pulse sequences {; Generation or control of pulse sequences; Operator console}	
M	G01R 33/56	5	Image enhancement or correction, e.g. subtraction or averaging techniques {, e.g. improvement of signal-to-noise ratio and resolution}	
M	G01R 33/64	2	using cyclotron resonance (G01R 33/24 takes precedence)	
M	G01R 35/00	0	Testing or calibrating of apparatus covered by the other groups of this subclass	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T= existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:

- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).

- U groups: it is obligatory to display the required “anchor” symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups).Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types .
- “Transferred to” column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the “Transferred to” column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: “< administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY, ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD> , <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“Transferred to”) symbol, however it is required to specify “<no transfer>” in the “Transferred to” column for such cases.
- For finalisation projects, the deleted “F” symbols should have <no transfer> in the “Transferred to” column.
- For more details about the types of scheme change, see CPC Guide.

C. New, Modified or Deleted Note(s)

SUBCLASS G01R- MEASURING ELECTRIC VARIABLES; MEASURING MAGNETIC VARIABLES
(measuring physical variables of any kind by conversion into electric variables, see Note (4) following the title of class G01; measuring diffusion of ions in an electric field, e.g. electrophoresis, electro-osmosis G01N; investigating non-electric or non-magnetic properties of materials by using electric or magnetic methods G01N; indicating correct tuning of resonant circuits H03J 3/12; monitoring electronic pulse counters H03K 21/40; monitoring operation of communication systems H04)

Type*	**Location**	**Old Note**	**New/Modified Note**
M	G01R	1. This subclass covers: • measuring all kinds of electric or magnetic variables directly or by derivation from other electric or magnetic variables; • measuring all kinds of electric or magnetic properties of materials; • testing electric or magnetic devices, apparatus or networks, (e.g. discharge tubes, amplifiers) or measuring their characteristics; • indicating presence or sign of current or voltage; • NMR, EPR or other spin-effect apparatus, not specially adapted for a particular application; • equipment for generating signals to be used for carrying out such tests and measurements. 2. In this subclass, the following terms or expressions are used with the meanings indicated : • "measuring" includes investigating; • "instruments" or "measuring instruments" means electro-mechanical measuring mechanisms; • "arrangements for measuring" means apparatus, circuits, or methods for measuring; 3. Attention is drawn to the Notes following the title of class G01. 4. In this subclass, instruments or arrangements for measuring electric variables are classified in the following way:	Insert Note (5) as follows: 5. In this subclass, group G01R 17/00 takes precedence over groups G01R 19/00 - G01R 31/00.

Type*	**Location**	**Old Note**	**New/Modified Note**
		• Electromechanical instruments where the measured electric variables directly effect the indication of the measured value, including combined effects of two or more values, are classified in groups G01R 5/00 - G01R 11/00. • Details common to different types of the instruments covered by groups G01R 5/00 - G01R 11/00 are classified in group G01R 1/00. • Arrangements involving circuitry to obtain an indication of a measured value by deriving, calculating or otherwise processing electric variables, e.g. by comparison with another value, are classified in groups G01R 17/00 - G01R 29/00. • Details common to different types of arrangements covered by groups G01R 17/00 - G01R 29/00 are classified in group G01R 15/00.	

*N = new note, M = modified note, D = deleted note

NOTE: The “Location” column only requires the symbol PRIOR to the location of the note. No further directions such as “before” or “after” are required.

2. A. DEFINITIONS (new)

Insert the following new definitions.

G01R 1/06

References

Limiting references

This place does not cover:

Indicating the presence of current or voltage	G01R 19/145
Indicating that current or voltage is either above or below a predetermined value or within or outside a predetermined range of values	G01R 19/165

Informative references

Attention is drawn to the following places, which may be of interest for search:

End pieces for leads	H01R 11/00

G01R 1/07

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Wireless interface with the DUT	G01R 31/3025

G01R 1/10

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Bearings in general	F16C

G01R 1/20

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Instrument transformers per se	H01F 38/20

G01R 1/22

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Voltage or current isolation using transformers	G01R 15/18

G01R 1/38

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Circuits	G01R 15/005

G01R 1/44

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

When measuring current or voltage	G01R 19/32

G01R 5/22

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Measuring effective values of currents or voltages using thermoconverters	G01R 19/03

G01R 5/28

References

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Combined with radiation detector	G01T

Informative references

Attention is drawn to the following places, which may be of interest for search:

Electrometers without passively moving electrodes	G01R 15/165
Measuring electrostatic fields	G01R 29/12
Measuring charge	G01R 29/24

G01R 11/12

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Bearings in general	F16C

G01R 11/36

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Ferraris instruments	G01R 5/20

G01R 13/26

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Brilliance control	H01J 29/98

G01R 13/36

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Discharge tubes	H01J

G01R 15/06

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

When the HV capacitor/sensor as such is the essential	G01R 15/16

G01R 15/14

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Instrument transformers	H01F 38/20
Voltage dividers	G01R 15/04
Means for converting the output of a sensing member to another variable	G01D 5/00
Visible signalling arrangements or devices	G08B 5/00
Transmission systems for measured values	G08C 17/00, G08C 23/00

G01R 17/10

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Automatic comparison or rebalancing arrangements	G01R 17/02

G01R 17/20

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Automatic comparison or re-balancing arrangements	G01R 17/02

G01R 19/03

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Using ac-dc conversion by means of thermocouples or other heat sensitive elements	G01R 19/225

G01R 19/12

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Emergency protective circuit arrangements responsive to the rate of change of electrical quantities	H02H 3/44

G01R 19/145

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Measuring probes in general	G01R 1/06
Indicating continuity or short circuits in electric apparatus or lines or components	G01R 31/50

G01R 19/18

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

DC amplifiers with modulators at input and demodulator at output	H03F 3/38

G01R 19/20

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Other DC current transducers, e.g. using the 0-flux principle	G01R 15/185
Magnetic amplifiers	H03F 9/00

G01R 19/30

References

Limiting References

This place does not cover:

Measuring peak values	G01R 19/04

Informative references

Attention is drawn to the following places, which may be of interest for search:

Modifications of instruments to indicate the maximum or the minimum value reached in a time interval	G01R 1/40
Using digital methods	G01R 19/2506

G01R 19/32

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Modifications of instruments for temperature compensation	G01R 1/44

G01R 31/319

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Logic analysers	G01R 31/3177
Memory tester hardware	G11C 29/56

G01R 33/038

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Electro-dynamic magnetometers	G01R 33/028

G01R 33/06

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Manufacture of galvano-magnetic elements	H01L 43/00

G01R 33/26

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Optical pumping in general	G01N 24/006

G01R 33/34

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Aerials in general	H01Q

G01R 33/381

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Electromagnets per se	H01F 7/06

G01R 33/3815

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Superconductive magnets	H01F 6/00

G01R 33/383

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Permanent magnets per se	H01F 7/02

G01R 33/387

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Screening	G01R 33/42

G01R 33/42

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Screening in general	H05K 9/00

G01R 33/56

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Image data processing in general	G06T

G01R 33/64

References

Limiting References

This place does not cover:

For measuring direction or magnitude of magnetic fields or magnetic flux	G01R 33/24

Informative references

Attention is drawn to the following places, which may be of interest for search:

Omegatrons per se	H01J 49/38

2. B. DEFINITIONS QUICK FIX

Symbol	**Location of change** (e.g., section title)	**Existing reference symbol or section**	**Action; New symbol; New section**
G01R	Informative References		Insert: The following references into the Informative references table. Measuring diffusion of ions in an electric field, e.g. electrophoresis, electro-osmosis G01N Monitoring electronic pulse counters H03K 21/40 Monitoring operation of communication systems H04
G01R	Limiting Reference		Insert: The following new Limiting references section: **References** ***Limiting references*** *This place does not cover:* Indicating correct tuning of resonant circuits H03J 3/12
G01R	References out of a residual place	Testing or measuring semiconductors or solid state devices during manufacture or treatment H01L21/66	Replace: The symbol H01L21/66 with: H01L 22/00
G01R	Application-oriented references	Indicating correct tuning of resonant circuits H03J3/12	Delete: The reference indicated from the Application-oriented references table.
G01R	Special rules	Concerning the "measuring of electric variables" part, the following applies when classifying: The most pertinent group is given as an EC. If several groups are equally pertinent (so if it is not clear which EC to allocate), several EC's or an EC and additional Indexing Codes are given. General remark: G01R (electric part) is a big	Delete: The following text (paragraphs 1 and 4) from the Special rules section. Concerning the "measuring of electric variables" part, the following applies when classifying: The most pertinent group is given as an EC. If several groups are equally pertinent (so if it is not clear which EC to allocate), several EC's or an EC and additional Indexing Codes are given.

		subclass with many low level subgroups. When classifying at group or subgroup level, care should taken to see to it that the document(s) really concern the measuring of an electric variable and that all higher level (subclass, group, subgroup) definitions are met with. The scheme was created at a time when electromechanical instruments were common. The groups closely linked to such instruments are rarely used for classifying measuring or testing devices that fall under G01R. It means what it says; many groups of G01R are not used any more, because the definitions are outdated (contrary to other fields we do not "bend" EC interpretations to fit present days technology.	It means what it says; many groups of G01R are not used anymore, because the definitions are outdated (contrary to other fields we do not "bend" EC interpretations to fit present days technology.
G01R 1/02	Limiting References	Constructional details common to different types of electric apparatus H05K7/00	Delete: This reference, table and section.
G01R 1/02	Informative References		Insert**:** A new Informative references section with the following references: **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:* Constructional details common to different types of electric apparatus H05K 7/00 Details of a kind applicable to measuring arrangements not specially adapted for a specific variable G01D 7/00

G01R 1/04	Informative References		Insert**:** A new Informative references section with the following references: **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:* External aspects, e.g. related to chambers, contacting devices or handlers G01R 31/286 Terminals H01R Terminal strips or boards H02B Housings for electrical apparatus H05K
G01R 1/067	Informative References		Insert**:** A new Informative references section with the following references: **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:* Plugs, sockets or clips G01R 1/0408 Testing of connections G01R 31/66 Contacting IC's for test purposes when probe design is not the essential feature G01R 31/2886 Using radiation beam as probe G01R 31/302 End pieces for wires terminating in a probe H01R 11/18
G01R 1/18	Informative References		Insert**:** The following reference into the Informative references table: Measuring shielding efficiency H05K 9/0069

G01R 5/00	Informative References		Insert**:** A new Informative references section with the following reference: **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:* Vibration galvanometers G01R 9/02
G01R 11/00	Limiting Reference	Electronic power meters are classified G01R21/133 Electronic electricity (energy) meters G01R22/06 Monitoring electric consumption of electrically-propelled vehicles B60L3/00, B60L58/00 Tariff metering apparatus, e.g. for measuring gas or water consumption but also for general metering where the type of consumption is not of interest; utility meters G01D4/00 Remote reading of utility meters G01D4/002 Boards, panels, desks (and parts or accessories therefor) for energy meters H02B1/03	Delete: The following five references from the Limiting references table. Electronic power meters are classified G01R 21/133 Electronic electricity (energy) meters G01R 22/06 Tariff metering apparatus, e.g. for measuring gas or water consumption but also for general metering where the type of consumption is not of interest; utility meters G01D 4/00 Remote reading of utility meters G01D 4/002 Boards, panels, desks (and parts or accessories therefor) for energy meters H02B 1/03
G01R 11/00	Limiting Reference	Monitoring electric consumption of electrically-propelled vehicles B60L3/00, B60L58/00	Delete: The following comma and symbol from the existing reference: ", B60L58/00"
G01R 11/00	Informative References		Insert**:** A new Informative references section with the following references: **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:*

			Electronic power meters are classified G01R 21/133 Other arrangements for measuring time integral of electric power or current G01R 22/00 Electronic electricity (energy) meters G01R 22/06 Monitoring or controlling batteries or fuel cells B60L 58/00 Tariff metering apparatus, e.g. for measuring gas or water consumption but also for general metering where the type of consumption is not of interest; utility meters G01D 4/00 Remote reading of utility meters G01D 4/002 Boards, panels, desks (and parts or accessories therefor) for energy meters H02B 1/03
G01R 11/02	Informative References		Insert**:** A new Informative references section with the following reference: **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:* Applicable to electric measuring instruments in general G01R 1/00
G01R 11/24	Informative References		Insert**:** A new Informative references section with the following references: **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:*

			Measures against unauthorised operation of bolts, nuts or pins F16B 41/005 Security seals G09F 3/03 Preventing of tampering with detection circuits in signaling or alarm circuits G08B 29/046
G01R 11/25	Limiting References	Preventing tampering with detection circuits in signalling or alarm circuits G08B29/046 Seals G09F3/03	Delete: The entire Limiting references section and references.
G01R 11/25	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:* Preventing tampering with detection circuits in signalling or alarm circuits G08B 29/046 Seals G09F 3/03
G01R 13/00	Limiting References	Recognising patterns in signals G06K9/00496 Control arrangements or circuits for visual indicators common to CRT indicators and other visual indicators (image data processing or generation, in general G06T) G09G5/00	Delete: The entire Limiting references section and references.
G01R13/00	Informative References		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:*

			Recognising patterns in signals G06K 9/00496 Control arrangements or circuits for visual indicators common to CRT indicators and other visual indicators G09G 5/00 Display by mechanical displacement only G01R 5/00, G01R 7/00, G01R 9/00 Frequency spectrum G01R 23/18
G01R13/02	Limiting References	LCD display of oscilloscopes G01R 13/403 Two or three dimensional representation of values G01R 13/408 General arrangements for monitoring or analysing measured signals, using A.D. convertersmeasuring current or voltage using digital measurement techniques G01R 19/25 Modular arrangements for computer based systems for measuring current or voltage G01R 19/2516	Delete: The entire Limiting references section and references.
G01R13/02	Informative References		Insert: The following new references into the Informative references table. LCD display of oscilloscopes G01R 13/403 Two or three dimensional representation of values G01R 13/408 General arrangements for monitoring or analysing measured signals, using A.D. converters measuring current or voltage using digital measurement techniques G01R 19/25

			Modular arrangements for computer based systems for measuring current or voltage G01R 19/2516
G01R13/02	Informative References	Cathode-ray oscilloscopes with intermediate digital signal processing (note: older digital oscilloscopes are also partly classified here although they should be classified in G01R 13/02 and lower) G01R13/345	Replace: The description of symbol G01R13/345 with the following description. Cathode-ray oscilloscopes with intermediate digital signal processing
G01R 13/20	Limiting References	Digital oscilloscopes G01R 13/02 LCD displays of oscilloscopes G01R 13/403 Control arrangements or circuits for cathode-ray tube indicators G09G 1/00 Cathode ray tubes H01J 31/00	Delete: The entire Limiting references section and references.
G01R 13/20	Informative References		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search:* Digital oscilloscopes G01R 13/02 LCD displays of oscilloscopes G01R 13/403 Control arrangements or circuits for cathode-ray tube indicators G09G 1/00 Cathode ray tubes H01J 31/00
G01R 13/22	Limiting Reference	Circuits for generating pulses, e.g. saw-tooth waveforms H03K 3/00	Delete: The entire Limiting references section and references.

G01R 13/22	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Circuits for generating pulses, e.g. saw-tooth waveforms H03K 3/00
G01R 13/28	Limiting Reference	Electronic switches H03K 17/00	Delete: The entire Limiting references section and references.
G01R 13/28	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Electronic switches H03K 17/00
G01R 13/34	Limiting Reference	Sample and hold arrangements in general G11C 27/02	Delete: The entire Limiting references section and references.
G01R 13/34	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Sample and hold arrangements in general G11C 27/02
G01R 13/38	Relationships with other classification places	Such measuring systems per se G01R5/00, G01R7/00, G01R9/00	Delete: The entire Relationships section and references.
G01R 13/38	Informative Reference		Insert**:** A new Informative references section with the following reference. **References**

			Informative references *Attention is drawn to the following places, which may be of interest for search*: Measuring systems per se G01R5/00, G01R7/00, G01R9/00
G01R 15/00	Limiting Reference	Details of instruments G01R 1/00 Overload protection arrangements G01R 1/36	Delete: The entire Limiting references section and references.
G01R 15/00	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Details of instruments G01R 1/00 Overload protection arrangements G01R 1/36
G01R 15/16	Limiting Reference	Measuring an electric field as such G01R29/08	Delete: The entire Limiting references section and references.
G01R 15/16	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring an electric field as such G01R 29/08 Circuits constituting a voltage divider G01R 15/06
G01R 15/20	Limiting Reference	Measuring magnetic fields as such, using galvano-magnetic devices G01R 33/06	Delete: The entire Limiting references section and references.

G01R 15/20	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring magnetic fields as such, using galvano-magnetic devices G01R 33/06
G01R 19/00	Limiting Ref.	Instruments for converting a single current or a single voltage into a mechanical displacement G01R5/00	Insert: The following new reference into the Limiting references table. For measuring bioelectric currents or voltages A61B 5/24
G01R 19/00	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Voltage measurements using secondary electron emission when testing electronic circuits G01R 31/305
G01R 19/165	Informative Reference		Insert: The following new references into the Informative references table. Circuits with regenerative action, e.g. Schmitt trigger H03K 3/00 Threshold switches H03K 17/00
G01R 19/25	Informative Reference		Insert: The following new reference into the Informative references table. Arrangements for displaying measured electric variables in digital form G01R 13/02

G01R 21/08	Limiting Reference	Galvano-magnetic effect devices, e.g. Hall effect devices, for current measurements only G01R 15/20 Hall effect devices per se H01L 43/06, G01R 33/07	Delete: The entire Limiting references section and references.
G01R 21/08	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Galvano-magnetic effect devices, e.g. Hall effect devices, for current measurements only G01R 15/20 Hall effect devices per se H01L 43/06, G01R 33/07 Such devices per se H01L
G01R 21/127	Limiting Reference	By using digital tecnhique G01R21/133 Digital multiplication via delta sigma modulation G06F7/60	Delete: The following reference from the Limiting references table. Digital multiplication via delta sigma modulation G06F 7/60
G01R 21/127	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Digital multiplication via delta sigma modulation G06F 7/60
G01R 22/00	Limiting Reference	Electromechanical arrangements for measuring time integral of power or current G01R 11/00 Arrangements for measuring electric power G01R 21/00	Delete: The entire Limiting references section and references.

		Monitoring electric consumption of electrically-propelled vehicles B60L 3/00, B60L 58/00 Coin freed devices G07F 15/00 Arrangements for AC mains network controlling H02J 3/00 Arrangements for providing remote indication of network conditions H02J 13/00	
G01R 22/00	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Electromechanical arrangements for measuring time integral of power or current G01R 11/00 Monitoring electric consumption of electrically-propelled vehicles B60L 3/00, B60L 58/00 Arrangements for measuring electric power G01R 21/00 Coin freed devices G07F 15/00 Arrangements for AC mains network controlling H02J 3/00 Arrangements for providing remote indication of network conditions H02J 13/00
G01R 23/00	Limiting Reference	Investigating materials by use of microwaves G01N 22/00 Investigating materials by use of electric or magnetic means G01N 27/00 Frequency discriminators H03D 1/00	Delete: The entire Limiting references section and references.

		Demodulation of frequency modulated signals H03D 3/00 Receivers for broadcast information H04H 40/18 Digital receivers H04N 21/426 Frequency measurement of non electric signals. Frequency analysis, e.g. analytical spectometry. Algorithms for spectral analysis as such.	
G01R 23/00	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Investigating materials by use of microwaves G01N 22/00 Investigating materials by use of electric or magnetic means G01N 27/00 Frequency discriminators H03D 1/00 Demodulation of frequency modulated signals H03D 3/00 Receivers for broadcast information H04H 40/18 Arrangements for providing remote indication of network conditions H02J 13/00 High frequency probes G01R 1/06772
G01R 23/02	Limiting Reference	Arrangements for measuring frequency using vibrating reeds G01R 9/04	Delete: The entire Limiting references section and references.

		Measuring short-time intervals G04F 1/00	
G01R 23/02	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Arrangements for measuring frequency using vibrating reeds G01R 9/04 Measuring short-time intervals G04F 1/00
G01R 23/09	Limiting Reference	Radiation-measuring instruments in which pulses generated by a radiation detector are integrated G01T 1/15	Delete: The entire Limiting references section and references.
G01R 23/09	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Radiation-measuring instruments in which pulses generated by a radiation detector are integrated G01T 1/15
G01R 23/14	Limiting Reference	Generation of oscillations by beating unmodulated signals of different frequencies H03B 21/00	Delete: The entire Limiting references section and references.
G01R 23/14	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*:

			Generation of oscillations by beating unmodulated signals of different frequencies H03B 21/00
G01R 23/16	Limiting Reference	Investigating materials by use of microwaves G01N22/00 Investigating materials by use of electric or magnetic means G01N27/00 Computing with Fourier series or Walsh functions G06F17/14, G06G7/19 Feature extraction from signals G06K9/00523 Demodulation of frequency modulated signals H03D3/00 Receivers for broadcast information H04H40/18 Digital receivers H04N21/426	Delete: The entire Limiting references section and references.
G01R 23/16	Informative References		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Investigating materials by use of microwaves G01N 22/00 Investigating materials by use of electric or magnetic means G01N 27/00 Computing with Fourier series or Walsh functions G06F 17/14, G06G 7/19 Feature extraction from signals G06K 9/00523

			Demodulation of frequency modulated signals H03D 3/00 Receivers for broadcast information H04H 40/18
G01R 23/173	Limiting Reference	Panoramic receivers per se H03J 7/32	Delete: The entire Limiting references section and references.
G01R 23/173	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Panoramic receivers per se H03J 7/32
G01R23/20	Limiting Reference	Measurement of phase shift of four pole networks G01R27/28 Measurement of noise figure, signal-to-noise ratio or jitter (phase noise) G01R29/26 Testing of individual semiconductor devices G01R31/26 Testing (or characterizing) of electronic circuits G01R31/28 Analysis of signal quality G01R31/31708	Delete: The entire Limiting references section and references.
G01R 23/20	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measurement of phase shift of four pole networks G01R 27/28

			Measurement of noise figure, signal-to-noise ratio or jitter (phase noise) G01R 29/26 Testing of individual semiconductor devices G01R 31/26 Testing (or characterising) of electronic circuits G01R 31/28 Analysis of signal quality G01R 31/31708
G01R 25/00	Limiting Reference	Measuring power factor G01R 21/00 Measuring position of individual pulses in a pulse train G01R 29/02 Circuits for comparing the phase of two mutually independent oscillations H03D 13/00 Phase locked loops H03L 7/08	Delete: The entire Limiting references section and references.
G01R 25/00	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring power factor G01R 21/00 Measuring position of individual pulses in a pulse train G01R 29/02 Circuits for comparing the phase of two mutually independent oscillations H03D 13/00 Phase locked loops H03L 7/08 Phase discriminators H03D

G01R 25/08	Limiting Reference	Measuring position of individual pulses in a pulse train G01R 29/02 Measuring time intervals G04F 1/00	Delete: The entire Limiting references section and references.
G01R 25/08	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring position of individual pulses in a pulse train G01R 29/02 Measuring time intervals G04F 1/00
G01R 27/00	Limiting Reference	Measuring superconductive properties G01R33/1238	Delete: The entire Limiting references section and references.
G01R 27/00	Informative Reference	Measuring superconductive properties G01R33/1238	Insert**:** The following new table row into the Informative references table. Measuring superconductive properties G01R 33/1238
G01R 27/18	Limiting Reference	Measurement of isolation resistance G01R27/025 Testing of leakage or ground faults G01R31/52	Delete: The entire Limiting references section and references.
G01R 27/18	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measurement of isolation resistance G01R 27/025 Testing of leakage or ground faults G01R 31/52

G01R 27/20	Limiting Reference	Testing of continuity G01R31/54 Testing of connections G01R31/66	Delete: The entire Limiting references section and references.
G01R 27/20	Informative Reference		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Testing of continuity G01R 31/54 Testing of connections G01R31/66
G01R 27/22	Limiting Reference	Measuring vessels, electrodes for the Measuring resistance of fluids G01N 27/07	Delete: The entire Limiting references section and references.
G01R 27/22	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring vessels, electrodes for measuring resistance of fluids G01N 27/07
G01R 29/02	Limiting References	Measuring peak values G01R 19/04 Clock generators with changeable/programmable clock frequency G06F 1/08 Manipulating pulses using a chain of active delay devices H03K 5/133 Monitoring pattern of pulse trains H03K 5/19	Delete: The entire Limiting references section and references.
G01R 29/02	Informative References		Insert**:** A new Informative references section with the following references. **References**

			Informative references *Attention is drawn to the following places, which may be of interest for search*: Measuring peak values G01R 19/04 Clock generators with changeable/programmable clock frequency G06F 1/08 Manipulating pulses using a chain of active delay devices H03K 5/133 Monitoring pattern of pulse trains H03K 5/19 Amplitude G01R 19/00 Of repetition rate G01R 23/00 Of phase difference of two cyclic pulse trains G01R 25/00
G01R 29/04	Limiting References	Measuring effective values, i.e. root-mean square values G01R19/02	Delete: The entire Limiting references section and references.
G01R 29/04	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring effective values, i.e. root-mean square values G01R 19/02
G01R 29/06	Limiting References	Monitoring, testing of transmission systems H04B3/46	Delete: The entire Limiting references section and references.
G01R 29/06	Informative Reference		Insert**:** A new Informative references section with the following reference. **References** ***Informative references***

			Attention is drawn to the following places, which may be of interest for search: Monitoring, testing of transmission systems H04B 3/46
G01R 29/08	Limiting References	Measuring electromagnetic field characteristics for determining a voltage or a current in a high voltage line, e.g. by using Hall elements G01R15/14 Measuring electrostatic fields G01R29/12 Measuring magnetic fields G01R33/00 Measuring or estimating channel quality parameters H04B17/309	Delete: The entire Limiting references section and references.
G01R 29/08	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring or estimating received signal strength H04B 17/318
G01R 29/12	Limiting References	Analysing materials by investigating electrostatic variables G01N27/60	Delete: The entire Limiting references section and references.
G01R 29/12	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Analysing materials by investigating electrostatic variables G01N 27/60

G01R 29/14	Limiting References	Measuring radiation diagrams of antennas G01R29/10 Analysing materials by investigating electrostatic variables G01N27/60	Delete: The entire Limiting references section and references.
G01R 29/14	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring radiation diagrams of antennas G01R 29/10 Analysing materials by investigating electrostatic variables G01N 27/60
G01R 29/16	Limiting References	Testing AC power supplies, e.g. frequency converters G01R31/42	Delete: The entire Limiting references section and references.
G01R 29/16	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Testing AC power supplies, e.g. frequency converters G01R 31/42
G01R 29/18	Limiting References	Arrangements for synchronizing receiver with transmitter in communication networks H04L7/00	Delete: The entire Limiting references section and references.

G01R 29/18	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Arrangements for synchronising receiver with transmitter in communication networks H04L7/00
G01R 29/20	Limiting References	Testing of transformers for e.g. short circuits G01R31/62 Testing of electric windings G01R31/72 Testing or calibrating of instrument transformers G01R 35/02 Transformers in general H01F 19/00 - H01F 38/00	Delete: The entire Limiting references section and references.
G01R 29/20	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Testing of transformers for e.g. short circuits G01R 31/62 Testing of electric windings G01R 31/72 Testing or calibrating of instrument transformers G01R 35/02 Transformers in general H01F 19/00 - H01F 38/00
G01R 29/22	Limiting References	Piezo-electric devices in general H01L41/00	Delete: The entire Limiting references section and references.

G01R 29/22	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Piezo-electric devices in general H01L 41/00
G01R 29/24	Limiting References	Electrostatic instruments G01R 5/28 Measuring electrostatic potential, e.g. with electrostatic voltmeters orelectrometers, when the design of the sensor is essential G01R 15/165 Indicating presence of current G01R 19/15 Electrolytic meters, calorimetric meters, for measuring time integral of electric current G01R 22/02 , G01R 22/04 Measuring electrostatic fields G01R 29/12	Delete: The entire Limiting references section and references.
G01R 29/24	Informative References		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Electrostatic instruments G01R 5/28 Measuring electrostatic potential, e.g. with electrostatic voltmeters or electrometers, when the design of the sensor is essential G01R 15/165

			Indicating presence of current G01R 19/15 Electrolytic meters, calorimetric meters, for measuring time integral of electric current G01R 22/02, G01R 22/04 Measuring electrostatic fields G01R 29/12
G01R 29/26	Limiting References	Measurement of non-linear distortion, e.g. relation of harmonics to input Signal G01R 23/20 Analysis of signal quality or jitter of digital circuits G01R 31/31708	Delete: The entire Limiting references section and references.
G01R 29/26	Informative References		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Analysis of signal quality or jitter of digital circuits G01R 31/31708 Noise measuring in individual transistors G01R 31/2616 Measurement of non-linear distortion, e.g. relation of harmonics to input signal G01R 23/20
G01R 33/02	Limiting References		Insert**:** A new Limiting references section with the following reference. **References** ***Limiting references*** *This place does not cover:* Measuring direction or magnitude of magnetic fields or magnetic flux G01R 33/20

G01R 33/02	Informative References		Insert**:** A new Informative references section with the following references. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Measuring direction or magnitude of the earth's field for navigation or surveying G01C For prospecting, for measuring the magnetic field of the earth G01V3/00
G01R 33/025	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Compensating compasses G01C 17/38
G01R 33/025	Limiting References		Insert**:** A new Limiting references section with the following reference. **References** ***Limiting references*** *This place does not cover:* Means for compensating offset magnetic fields or the magnetic flux to be measured G01R 33/0017
G01R 33/032	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*:

			Magneto-optics in general G02F 1/09
G01R 33/035	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Manufacture of superconducting elements H01L 39/00
G01R 33/12	Limiting Reference		Insert**:** A new Limiting references section with the following reference. **References** ***Limiting references*** *This place does not cover:* Measuring direction or magnitude of magnetic fields or magnetic flux G01R 33/20
G01R 33/12	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Using magnetic-optic devices G01R 33/032
G01R 33/20	Limiting References	In vivo contrast agents A61K49/0002 Magnetic resonance gyrometers G01C19/00 Omegatrons using ion cyclotron resonance H01J49/38	Delete: The following references from the Limiting references table. In vivo contrast agents A61K49/0002 Magnetic resonance gyrometers G01C19/00 Omegatrons using ion cyclotron resonance H01J49/38

G01R 33/20	Limiting References		Insert: The following new references into the Limiting references table: Detecting, measuring or recording for diagnostic purposes involving electronic or nuclear magnetic resonance A61B 5/055 Magnetic resonance gyrometers G01C 19/60
G01R 33/20	Informative References		Delete: The following references from the Informative references table. Detecting, measuring or recording for diagnostic purposes involving electronic or nuclear magnetic resonance A61B5/055
G01R 33/20	Informative References		Insert: The following new references into the Informative references table. Prospecting or detecting using NMR G01 V3/00 In vivo contrast agents A61K 49/0002 Magnetic resonance gyrometers G01C 19/00 Omegatrons using ion cyclotron resonance H01J 49/38
G01R 35/00	Limiting references	Calibration of tester hardware for testing digital circuits G01R31/3191	Delete: The entire Limiting references section and references.
G01R 35/00	Informative References		Insert**:** A new Informative references section with the following reference. **References** ***Informative references*** *Attention is drawn to the following places, which may be of interest for search*: Analysis of tester Performance; Tester Characterisation G01R 31/31901

NOTES:

- The table above is used for corrections or modifications to existing definitions, e.g. delete an entire definition or part thereof; propose new wording or modify wording of a section, change the symbol the definition is associated with, change or delete a reference symbol, etc.
- Do not delete (F) symbol definitions.